

Carol M Browner
MC-1101A
USEPA Headquarters
Ariel Rios Building
1200 Pennsylvania Avenue, N. W.
Washington, DC 20460
browner.carol@epa.gov

Dear Administrator Browner,

This letter is to request your assistance in the investigation of the attached complaint by the Pittsburg Unified School District board of trustees, (b) (6) Privacy a disabled individual, and myself, Mike Boyd President of CALifornians for Renewable Energy, Inc. (CARE).

We wish to process this complaint through the EPA Office of Civil Rights for violations of Title VI by the California Energy Commission (CEC), Bay Area Air Quality Management District (BAAQMD), and the California Air Resources Board (CARB), in their approval of the Pittsburg District Energy Facility CEC docket 98-AFC-1 and the Delta Energy Center CEC docket 98-AFC-3. We wish to process this complaint through the Office of Environmental Justice for discriminatory effects resulting from the review of and over site by EPA Region IX Air Division, and additionally for the review of the PSD permit for the Delta Energy Center by the EPA Environmental Appeals Board (EAB) docket PSD99-76.

Low-income children and minority populations in the community of Pittsburg Contra Costa County California already experience disparate impacts from criteria air pollutants in comparison to surrounding counties. These two projects will further inflict disparate impacts from criteria pollutants in the form of particulate matter, NOx, and Toxic Air Contaminants (TACs). Contra Costa County low income and minority populations already suffer elevated levels of occurrences of asthma, and breast cancer, along with increased human mortality attributable to particulate matter exposure. The community of Pittsburg's low-income children and minority populations experience these effects disparately in comparison to non-minority non-low income populations within Contra Costa County and in the surrounding counties.

No mitigation for impacts from these projects will be received by the Pittsburg Unified School District to mitigate the effects that school children, predominantly low income and minority, will experience as a result of these projects. The remedy we seek is to prohibit the development of these projects without local mitigation and local emission offsets. We seek the recognition by the CEC, BAAQMD, and CARB of their responsibility to identify disparately impacted low income and minority populations like Pittsburg's, and provide for appropriate mitigation and alternatives pursuant to Federal law, and we seek the requirement that this be made part of their certified regulatory programs.

Thank you for your assistance in this matter.



Michael E. Boyd –CARE, April 17, 2000

(b) (6) Privacy

This document is best viewed at the web site

<http://www.calfree.com/OCRDelta.html>

To: EPA Office of Civil Rights
Attn: Yasmin Yorker-Title VI Team Leader
Yorker.yasmin@epamail.epa.gov
U.S. EPA
Ariel Rios Building
Office of Civil Rights
1200 Pennsylvania Ave., MC1201
Washington D.C. 20460

To: EPA Office of Environmental Justice
Attn: Barry Hill Director
hill.barry@epa.gov
U.S. EPA
Ariel Rios Building
Office of Civil Rights
1200 Pennsylvania Ave., MC2201A
Washington D.C. 20460

Complainants

Michael Boyd –CARE, (b) (6) Privacy Jim MacDonald, and the board of trustees of the Pittsburg Unified School District. (See addendum [\[i\]](#))

Complaint of Title VI violations by the California Energy Commission, Bay Area Air Quality Management District, California Air Resources Board, EPA Region IX, and the EPA Environmental Appeals Board, in the approval of the development of and issuance of EPA PSD permits for the Delta Energy Center (98-AFC-3) and the Pittsburg District Energy Facility (98-AFC-1).

Michael Boyd, (b) (6) Privacy and Jim MacDonald (Complainants) of Pittsburg, California file the following complaint. None of the complainants in this complaint are attorneys, nor does legal counsel in this matter represent us [\[1\]](#). (b) (6) Privacy and Mr. MacDonald are both members of the non-profit corporation Californians for Renewable Energy, Inc. (CARE). Michael Boyd, the president of the board of directors, represents CARE. CARE (also known as Intervenor CRE) has participated as an intervenor in the proposed Delta Energy Center Application for Certification (AFC) before the California Energy Commission (CEC). (b) (6) Privacy who is handicapped as a result of toxic chemical exposure, also participated as an intervener in the Delta Energy Center AFC representing Community Health First. Mr. MacDonald represents the community of Pittsburg with a fiduciary responsibility to protect Pittsburg's low income and minority children from hazardous environmental effects as a trustee of the Pittsburg Unified School District. Mr. MacDonald participated in the Bay Area Air Quality Management District's (BAAQMD's) Determination of Compliance (DOC) process in the issuance of the Prevention of Significant Deterioration (PSD) permit for the Delta Energy Center. Mr. MacDonald also participated as a member of the public in the AFC for the Pittsburg District Energy Facility AFC (98-AFC-1) as well as the Delta Energy Center (98-AFC-3). The filing of this complaint is a joint filing by the parties CARE, (b) (6) Privacy as a handicapped individual, and Mr. MacDonald as a duly elected representative of the Pittsburg community, along with the entire board of trustees of the Pittsburg Unified School District.

Respondents

California Energy Commission

From Commission's 1999-2000 Budget^[ii] "Federal Funds - proposed expenditure level is \$8,659K. This includes \$2,680K in staff support and contracts for the SEP program and \$5,979K for anticipated federal awards for various Commission programs."

Bay Area Air Quality Management District

EPA Funding, "INVESTIGATIONS, SURVEYS OR STUDIES CONSIDERED NEITHER RESEARCH, DEMONSTRATION NOR TRAINING; AND COMPREHENSIVE ESTUAR-INE MGMT POLLUTION CONTROL & ABATEMENT \$561,380." ^[iii]

EPA Funding Pending, "AIR POLLUTION CONTROL PROGRAM SUPPORT." ^[iv]

California Air Resources Board

EPA Funding, "INVESTIGATIONS, SURVEYS OR STUDIES CONSIDERED NEITHER RESEARCH, DEMONSTRATION NOR TRAINING; AND COMPREHENSIVE ESTUAR-INE MGMT POLLUTION CONTROL & ABATEMENT \$125,000." ^[v]

EPA Funding, "SMALL GRANT - DEVELOPMENT OF A THREE DAY STANDARDIZED TRAINING PROGRAM FOR STATE & LOCAL GOVERNMENTS ON THE NEW SERVICE REVIEW & PREVENTION OF SIGNIFICANT DETERIORATION (PSD)- CARB WITH INPUT FROM LOCAL AIR POLLUTION CONTROL DISTRICT STAFF AND EPA, PROPOSE TO MODIFY THE EXSISTING EPA NSR/PSD TRAINING COURSE TO ADDRESS THE NEEDS OF THE STATE AND LOCAL ENFORCEMENT PERSONNEL \$50,000." ^[vi]

The EPA is responsible for processing by EPA's Office of Civil Rights (OCR) complaints filed under Title VI of the Civil Rights Act of 1964, as amended (Title VI), alleging discriminatory effects resulting from the issuance of pollution control permits by state and local governmental agencies that receive EPA funding. Petitioners contend that the proposed mitigation measures violate Title VI in that they unfairly impact low-income children and minority communities affected by the failure of the applicant to eliminate unhealthful air emissions in an area that EPA has designated as non-attainment for Ozone. Petitioner's position is that the Commission's support of the projects at current sites is in violation of Title VI of the Civil Rights Act of 1964, and as such the Commission's failure to provide an adequate alternatives analysis and subsequent approval is in violation of CEQA and NEPA, and is an "abuse of discretion" on the part of the Commission. Pursuant to 40 C.F.R. § 7.120(b)(2) this complaint violations of Title VI of the Civil Rights Act of 1964 by the California Energy Commission, Bay Area Air Quality Management District, California Air Resources Board, EPA Region IX, and the EPA Environmental Appeals Board, in the approval of the development of and issuance of EPA PSD permits for the Delta Energy Center (98-AFC-3) and the Pittsburg District Energy Facility (98-AFC-1) occurred within the last 180 days. The PSD permit for 98-AFC-1 occurred prior this 180-day period.

Introduction

We wish to process this complaint through the EPA Office of Civil Rights for violations of Title VI by the California Energy Commission (CEC), Bay Area Air Quality Management District (BAAQMD), and the California Air Resources Board (CARB), in their approval of the Pittsburg District Energy Facility CEC docket 98-AFC-1 and the Delta Energy Center CEC docket 98-AFC-3. We wish to process this complaint through the Office of Environmental Justice for discriminatory effects resulting from the review of and over site by EPA Region IX Air Division, and additionally for the review of the PSD permit for the Delta Energy Center by the EPA Environmental Appeals Board (EAB) docket PSD99-76.

Low-income children and minority populations in the community of Pittsburg Contra Costa County California already experience disparate impacts from criteria air pollutants in comparison to surrounding counties. These two projects will further inflict disparate impacts from criteria pollutants in the form of particulate matter, NOx,

and Toxic Air Contaminants (TACs). Contra Costa County low income and minority populations already suffer elevated levels of occurrences of asthma, and breast cancer, along with increased human mortality attributable to particulate matter exposure. The community of Pittsburg's low-income children and minority populations experience these effects disparately in comparison to non-minority non-low income populations within Contra Costa County and in the surrounding counties.

No mitigation for impacts from these projects will be received by the Pittsburg Unified School District to mitigate the effects that school children, predominantly low income and minority, will experience as a result of these projects. The remedy we seek is to prohibit the development of these projects without local mitigation and local emission offsets. We seek the recognition by the CEC, BAAQMD, and CARB of their responsibility to identify disparately impacted low income and minority populations like Pittsburg's, and provide for appropriate mitigation and alternatives pursuant to Federal law, and we seek the requirement that this be made part of their certified regulatory programs.

Complainants contend that the California Energy Commission, Bay Area Air Quality Management District, California Air Resources Board, EPA Region IX, and the EPA Environmental Appeals Board, in the approval of the development of and issuance of an EPA PSD permit for the Delta Energy Center (98-AFC-3) and the Pittsburg District Energy Facility (98-AFC-1), failed to comply with the EPA's *Final Guidance For Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses of April 1998* which outlines the following steps:

- **Determine the actual or possible area of impact of the project.** *For this site it would include a worst-case scenario of all potential pollution from the project (All controls fail or possible burning of alternate fuel. Possible gas line rupture due to rail car derailment caused by deliveries or employees having to cross heavily used railroad tracks and being hit. All this, in combination with the many LPG, chlorine and ammunition trains.) Determine worst-case scenario for Delta water pollution. For this site it would include the facility being completely flooded and all stored chemicals entering the Delta. Such a disaster could have negative effects on the Delta and SF Bay. The project is situated in an area prone to flooding. Worst-case scenario on groundwater contamination related to chemicals stored on site leaching into groundwater. Worst-case scenario sabotage.*
- **Definition of Minority:** *any population consisting of less than 50%caucasian.*
- **Definition of low income:** *In the absence of any local definition of low income the National poverty line is to be used. The California Department of Education recognizes families that qualify for free and reduced lunch as low income.*
- **With the possible impact area established, the minority and low-income population within that area must be determined.** *Any population of 50% or more minority or low income qualifies, examples: the minority and low income population of a school district; the minority and low income population of a city; the minority and low income population of the downtown, uptown, westside, eastside; or by census block or tract. To keep it simple we have been defining minority populations by census blocks and low income by public schools and census blocks.*
- **An extensive EIR study of the existing, potential or foreseeable pollution that effects the EJ communities is then done.** *This includes the effects of lack of medical access, lead pipes and paint, disease patterns, planned new roads and industries. Whether there are subsistence farmers or gatherers of natural food supplies that might be affected by project. Do they depend on fishing to supplement their diet? Do they use ground water that might be contaminated by the project?*
- **The results are compared to a larger non-minority, non low-income community.** *In this case the designated community should be Marin County.*

- *At this point a determination can be made. If the study finds that the environmental quality within the EJ community is worse than the designated comparable community then the applicant cannot build unless they can show there is no other alternative (cost is not a factor) or that they will completely mitigate the effects on the EJ community.*
- **The applicant must conform to all other existing requirements.**

Complainants summarize their complaint as follows:

- 1) The CEC did violate the requirements by Title VI that it completes a EIR (CEQA) and EIS (NEPA) in its permitting of these projects which includes federal mandates for Environmental Justice Analysis in such projects.
- 2) The CEC discriminated against the low income children and the predominantly minority population of Pittsburg in permitting these projects, without a federal mandated Environmental Justice Analysis that identified the community of Pittsburg as a target Environmental Justice population.
- 3) The CEC discriminated against the low income children and the predominantly minority population of Pittsburg in failing to identify the disparate impact of criteria air pollutants, ground level pollutants, and toxic air emissions (TACs) from these projects in comparison with the surrounding counties of Salano, Napa, and Marin.
- 4) The CEC discriminated against the low income children and the predominantly minority population of Pittsburg in failing to identify the disparate impact of air pollutants on human mortality and asthma in Contra Costa County in comparison with the surrounding counties of Salano, Napa, and Marin.
- 5) The CEC discriminated against the low income children and the predominantly minority population of Pittsburg in the permitting of these projects without local mitigation of air impacts that benefit local air quality, and sustain continuous improvements in regional environmental conditions.
- 5) The CEC discriminated against disabled persons in failing to provide appropriate accommodations for (b) (6) Privacy at its November 18, 1999 evidentiary hearing.
- 7) The CEC discriminated against African Americans persons by deny (b) (6) Privacy and opportunity to act as an expert witness on Environmental Justice at its November 18, 1999 evidentiary hearing.
- 3) The BAAQMD did violate the requirements by Title VI that it completes an EIR (CEQA) and EIS (NEPA) analysis in its PSD permitting of these projects, which includes federal mandates for Environmental Justice Analysis in such projects.
- 9) The BAAQMD discriminated against the low income children and the predominantly minority population of Pittsburg in issuing a PSD permit for these projects, without a federal mandated Environmental Justice Analysis that identified the community of Pittsburg as a target Environmental Justice population.
- 10) The BAAQMD discriminated against the low income children and the predominantly minority population of Pittsburg in failing to identify the disparate impact of criteria air pollutants, ground level pollutants, and toxic air emissions (TACs) from these projects in comparison with the surrounding counties of Salano, Napa, and Marin.
- 11) The BAAQMD discriminated against the low income children and the predominantly minority population of Pittsburg in failing to identify the disparate impact of air pollutants on human mortality and asthma in Contra Costa County in comparison with the surrounding counties of Salano, Napa, and Marin
- 12) The BAAQMD discriminated against the low income children and the predominantly minority population of Pittsburg in issuing a PSD permit for these projects without local mitigation of air impacts that benefit local air quality, and sustain continuous improvements in regional environmental conditions.
- 13) EPA Region IX through its authority delegated to BAAQMD did violate the requirements by Title VI that it completes an EIR (CEQA) and EIS (NEPA) analysis in its PSD permitting of these projects, which includes federal mandates for Environmental Justice Analysis in such projects.
- 14) EPA Region IX through its authority delegated to BAAQMD in issuing a PSD permit for these projects, without a federal mandated Environmental Justice Analysis that identified the community of Pittsburg as a target Environmental Justice population.
- 15) EPA Region IX through its authority delegated to BAAQMD discriminated against the low income

children and the predominantly minority population of Pittsburg in failing to identify the disparate impact of criteria air pollutants, ground level pollutants, and toxic air emissions (TACs) from these projects in comparison with the surrounding counties of Salano, Napa, and Marin.

- 16) EPA Region IX through its authority delegated to BAAQMD discriminated against the low income children and the predominantly minority population of Pittsburg in failing to identify the disparate impact of air pollutants on human mortality and asthma in Contra Costa County in comparison with the surrounding counties of Salano, Napa, and Marin
- 17) EPA Region IX through its authority delegated to BAAQMD discriminated against the low income children and the predominantly minority population of Pittsburg in issuing a PSD permit for these project without local mitigation of air impacts that benefit local air quality, and sustain continuous improvements in regional environmental conditions.
- 18) The EPA Environmental Appeals Board discriminated against the low income children and the predominantly minority population of Pittsburg in its review and subsequent denial of the appeal of a PSD (PSD99-76) permit for the Delta Energy Center, without a federal mandated Environmental Justice Analysis that identified the community of Pittsburg as a target Environmental Justice population.
- 19) The California Air Resources Board (CARB) discriminated against the low income children and the predominantly minority population of Pittsburg in approving permit guidelines for these projects, without a federal mandated Environmental Justice Analysis that identified the community of Pittsburg as a target Environmental Justice population. Further, CARB's failure to mandate air quality guidelines for these projects acted to perpetrate discriminatory effects.

Project Descriptions

The Pittsburg District Energy Facility (PDEF) CEC docket 98-AFC-1 is 500 MW gas fired power plant. A more thorough description of the project is provided in addendum [\[vii\]](#)

The Delta Energy Center (DEC) CEC docket 98-AFC-3 is 880 MW gas fired power plant. A more thorough description of the project is provided in addendum [\[viii\]](#)

Existing Conditions Demonstrate Disparate Impacts

Complainants reference the written briefs, comments, and figures provided to/by the CEC, BAAQMD, EPA Region IX, CARB, and the EPA EAB. Complainants contend that evidence in the CEC record demonstrates that there is a disparate impact on minority and low-income children in the city of Pittsburg, Contra Costa County California.

Complainants contend that the sites of the two projects violates the civil rights of populations of minority and low income children in the Pittsburg area as identified in figures 4 [\[2\]](#) provided by EPA's Region IX, and 5 provided by The Northern California Council for the Community (NCCC) as the Pittsburg community's population is already disparately impacted by known EPA regulated sites (as identified in figure 1 and Table 3) in proximity to the site of the proposed Delta Energy Center. Tables 1 and 2 along with figures 2 and 3 provide specific CARB data, which demonstrates the disparate impacts of criteria air pollutants on Contra Costa County in comparison to those of the counties of Marin, Salano, and Napa.

[\[3\]](#)

DELTA ENERGY CENTER

Latitude: 38 12.735 Longitude: 121 50 41.379, CONTRA COSTA CO., CA



PRODUCED BY USEPA Region 9, GIS Center
DATE September 28, 1999

SOURCES:

NPL, 1992
National Priority List (Superfund)
CERCLA, 1980
Comprehensive Environmental Response Compensation and Liability Act
RCRA-CGL, 1980
Resource Conservation and Recovery Act
RCRA-TSD, 1980
Resource Conservation and Recovery Act
PCB, 1995
National Pollution Discharge Elimination System
TRI, 1992
Toxic Release Inventory
USF - State Water Resource Control Board, 1997
Leaking Underground Storage Tanks

Known Regulated Activities

- NPL
- NPL - point
- CERCLA
- RCRA - LOG
- RCRA - TSD
- NPDES Facility
- NPDES Outfall
- TRI
- LUST
- RCRA - SOG



NOTE: Radius increments in Miles

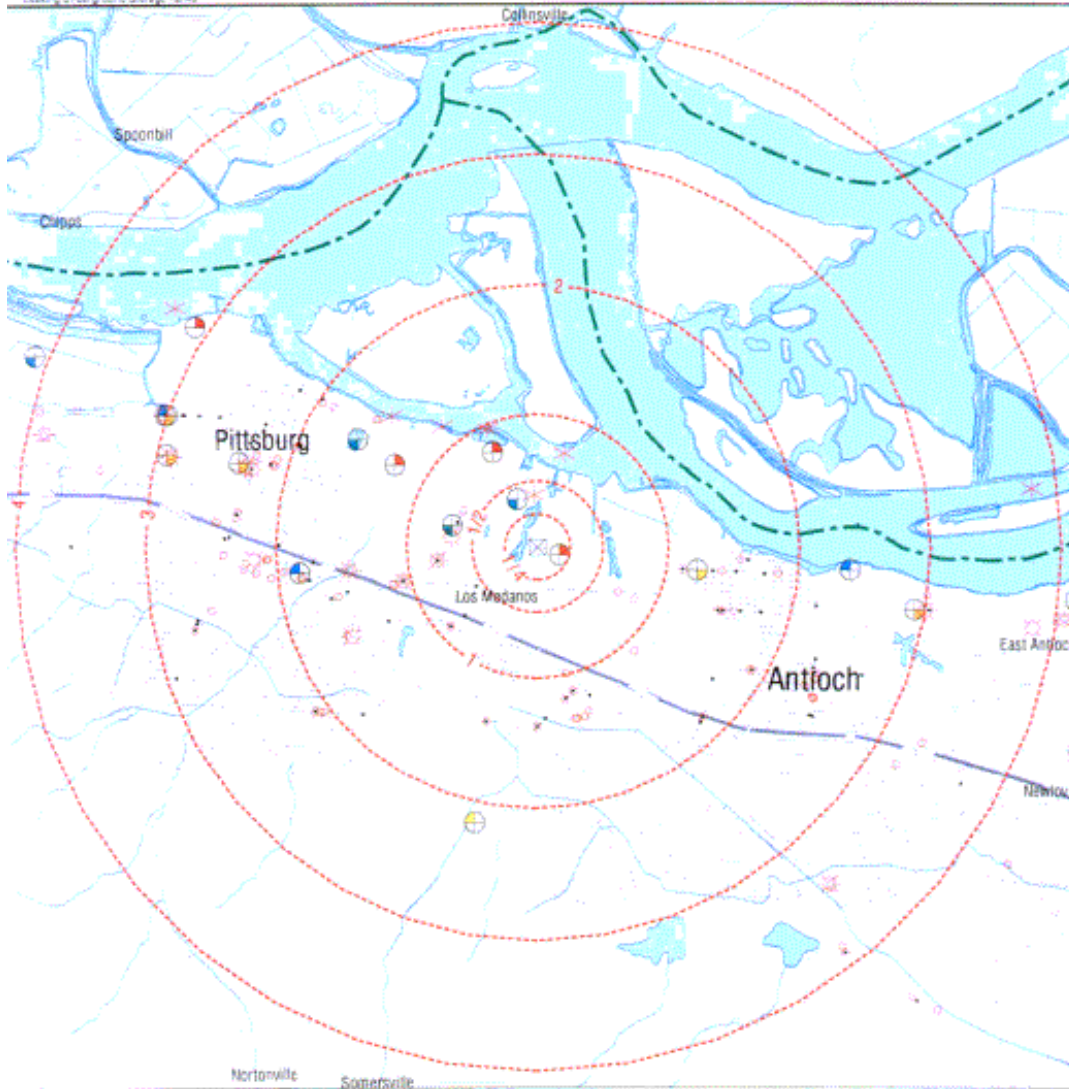


Figure 1 Known EPA Regulated Sites

Complainants present results from CARB comparing seven criteria air pollutants from adjacent counties in 1996 to demonstrate the disparate impacts to Contra Costa County.

“Emissions of seven criteria air pollutants are compiled in this report. The pollutants are total organic gases (TOG), reactive organic gases (ROG), carbon monoxide (CO), oxides of nitrogen (NOx), oxides of sulfur (SOx), particulate matter (PM), and particulate matter with an aerodynamic diameter of 10 micrometers or smaller (PM10). Some of these pollutants are precursors to other pollutants. For example, oxides of nitrogen and reactive organic gases are precursors to the formation in the atmosphere of oxidants such as ozone. Some of the oxides of nitrogen and oxides of sulfur emitted in the gaseous state are converted to nitrate and sulfate particulates, respectively.”^[4]

County Total

TOG	ROG	CO	NOX	SOX	PM	PM10
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Contra Costa	200	93	490	120	36	44	26
Marin	38	21	140	17	0	12	7
Solano	78	48	230	50	18	38	22
Napa	28	11	67	9	0	8	5

Table 1 Total emission of criteria pollutants by county.

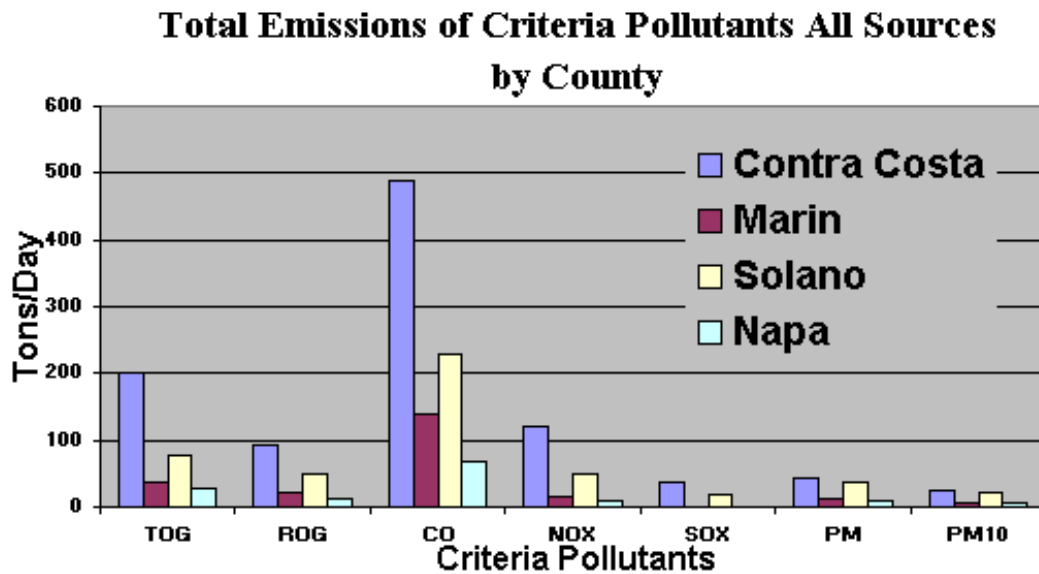


Figure 2 Total emissions of criteria pollutants by county.

County Stationary	<i>TOG</i>	<i>ROG</i>	<i>CO</i>	<i>NOX</i>	<i>SOX</i>	<i>PM</i>	<i>PM10</i>
Contra Costa	130	36	39	61	32	8	6
Marin	13	3	0	0	0	0	0
Solano	37	14	2	11	17	1	1
Napa	4	2	7	1	0	7	4

Table 2 Total emissions of criteria pollutants from stationary sources by county.

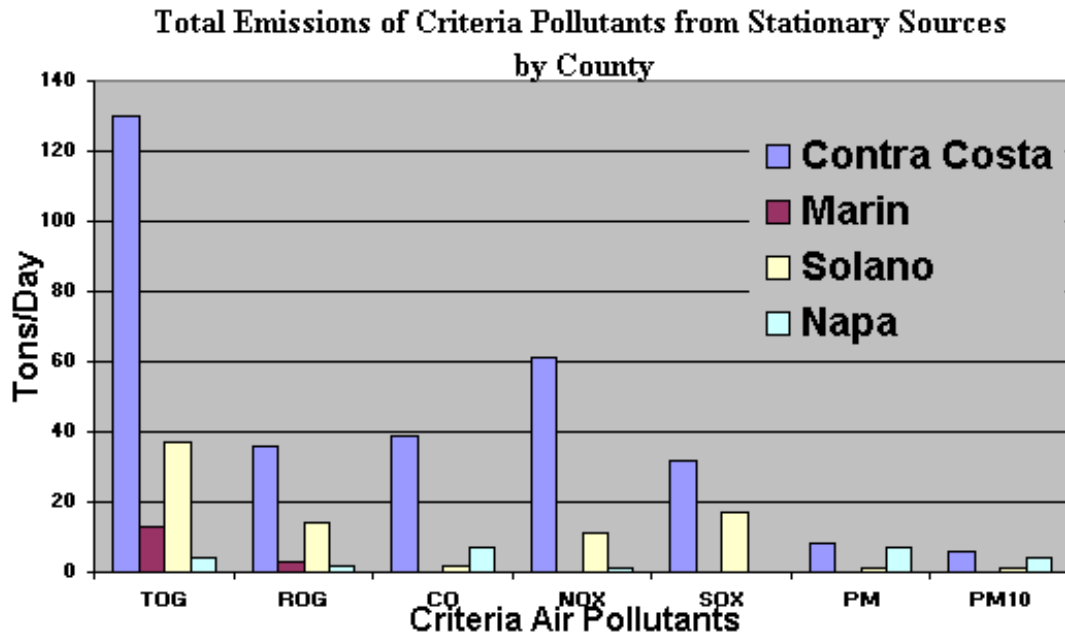


Figure 3 Total emissions of criteria pollutants from stationary sources by county.

Complainants contend that the sites of the two projects violates the civil rights of populations of minority and low income children in the Pittsburg area as identified in figures 4 [\[5\]](#) provided by EPA's Region IX, and 5 provided by The Northern California Council for the Community (NCCC) as the Pittsburg community's population is already disparately impacted by known EPA regulated sites (as identified in figure 1 and Table 3) in proximity to the site of the proposed Delta Energy Center. Tables 1 and 2 along with figures 2 and 3 provide specific CARB data, which demonstrates the disparate impacts of criteria air pollutants on Contra Costa County in comparison to those of the counties of Marin, Salano, and Napa.

DELTA ENERGY CENTER

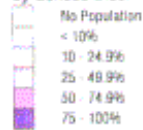
Latitude: 38 12.735 Longitude: 121 50 41.379, CONTRA COSTA CO., CA



PRODUCED BY: USEPA Region 9, GIS Center
DATE: September 28, 1998

SOURCES:
Minority Distribution:
PL94-171, Bureau of the Census, 1990 Census

Minority Distribution as Percent of Total Population by Census Block



NOTE: Radius increments in Miles

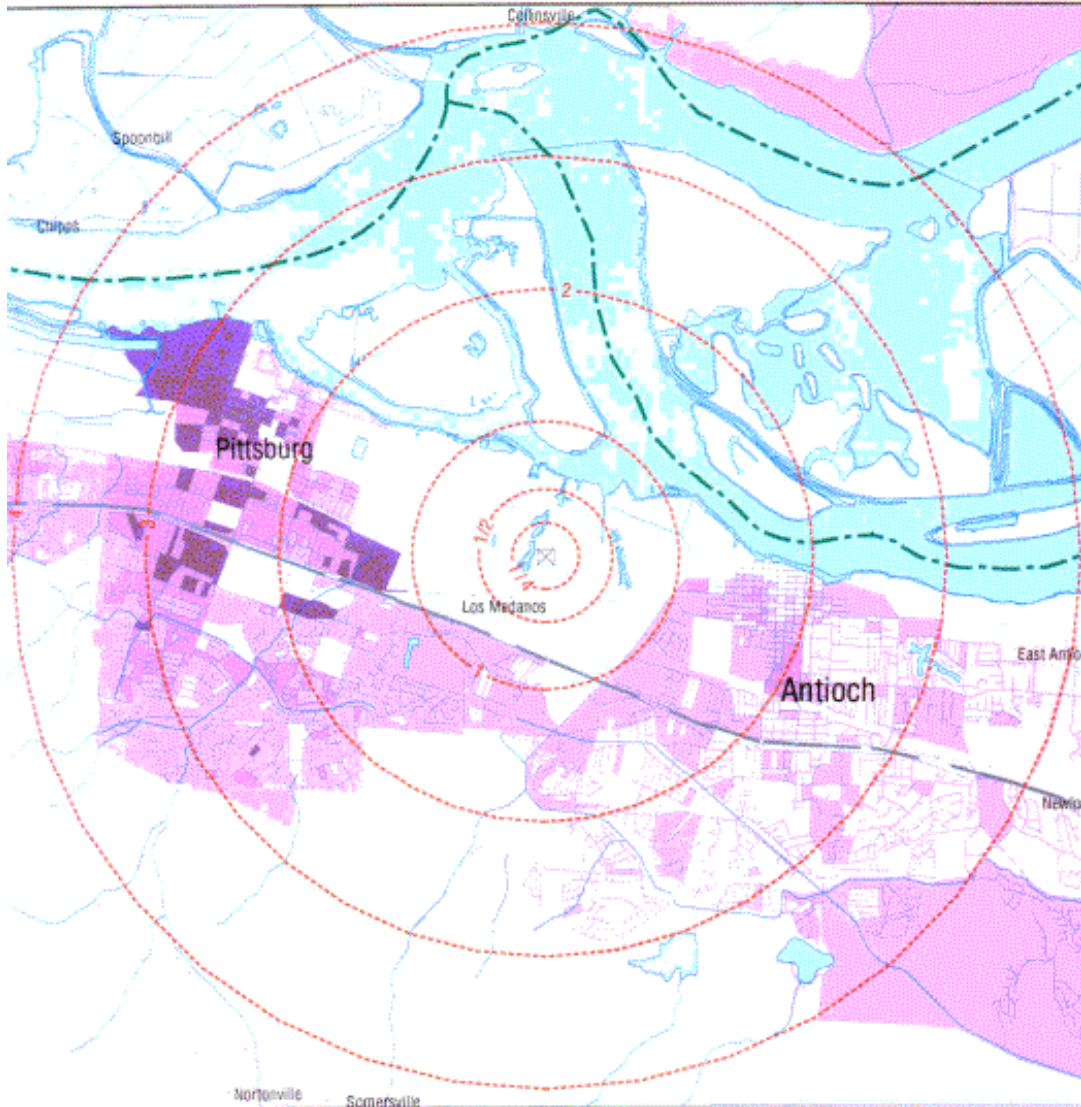


Figure 4 Minority Distributions as a Percentage of Total Population

Complainants cite figure 6 to demonstrate that on the census tract level that a large concentration of 50% or greater of low-income children exist in the Pittsburg Community which currently experience disparate impact from air emissions compared to surrounding counties. [\[6\]](#)

Degree To Which Poverty Is Concentrated Among Children In Census Tracts of Contra Costa County



Air Basin	Facility Name	City	NOx (tons/year)
San Francisco Bay Area	Shell Martinez Refining Company	Martinez	4447
Mojave Desert	Southdown (Cement)	Apple Valley	4106
North Central Coast	P G & E	Moss Landing	4037
San Francisco Bay Area	Chevron Inc.	Richmond	3612

Mojave Desert	Riverside Cement Company	Oro Grande	3361
San Francisco Bay Area	Tosco Corp. Avon Refinery	Martinez	3161
San Francisco Bay Area	Exxon Corporation	Benicia	3078
South Coast	Chevron USA Inc.	El Segundo	2587
South Coast	California Portland Cement Co.	Colton	2289
Mojave Desert	California Portland Cement Co.	Mojave	2246
1. Facility totals are for calendar year 1995. Some facilities may have reduced or increased emissions since			
1995. These changes will be reflected in subsequent almanacs.			
2. The lists of facilities do not include military bases, landfills, or airports.			

Table 3 California's top point sources for NOx

Impact cannot be considered insignificant because it's contribution to air quality is insignificant when compared to other sources

Complainants cite CARE's Comments on the Presiding Member's Proposed Decision from page 165 as follows:

5. Cumulative Impacts

Despite finding that cancer and non-cancer risks are *de minimis*, Staff nevertheless assessed the project's potential cumulative impacts to public health by looking simultaneously at the project's maximum impacts, those of the recently licensed PDEF power plant, and those of the existing Dow Chemical plant. (Ex. 20, p. 35.) The assumption that because the potential cumulative impacts are *de minimis* should not be used as a basis for not completing an adequate cumulative impact analysis on air quality impacts and should be factored into any alternatives analysis. From <http://www.pgedivest.com/eirtc/comments/u.html>:

"A project's impact cannot be considered insignificant because it's contribution to air quality is insignificant when compared to other sources. Kings County Farm Bureau v. City of Hanford 221 Cal. App.3d 692, 720 (5th Dist. 1990). The Court of Appeals held inadequate the cumulative impact analysis prepared for an EIR for a proposed coal-fired cogeneration power plant. The Court called this method of finding an impact insignificant because it was small compared to other sources, the incorrect approach. Id. This "ratio" theory of impact analysis allows a large pollution problem to make a project's contribution appear less significant in a cumulative impact analysis. But the Court strongly disagreed, holding that such a method would "avoid analyzing the severity of the problem and allow approval of projects which, when taken in isolation, appear insignificant, but when viewed together, appear startling." It is invalid and terribly misleading of the DEIR to conclude that the impacts to air quality are insignificant because it is less than one percent of regional emissions. (Pg.4.5-59). In fact, the more severe existing environmental problems are, the lower the threshold should be for treating a project's cumulative impacts as significant. Id. at 721. See discussion of Los Angeles Unified School District v. Los Angeles (1997) 58 Cal. App. 1019, supra."

The screening analysis indicated that the points of maximum impact of the three projects are broadly dispersed. The points of maximum impact vary with each facility because of different stack heights, different exhaust velocities, and the vagaries of modeled weather. (11/18 RT 255.) The modeled point of maximum impact of PDEF is approximately 5.5 miles north of DEC's project site. (Ex. 20, p. 35.) The point of maximum impact of the Dow facility, which has been modeled by BAAQMD, occurs in Antioch four miles southwest of the impact location for PDEF and considerably north of the DEC's maximum point of impact. (*Ibid.*) Staff, therefore, found that none of the maximum points of impact are even close to each other. (*Ibid.*) Staff's witness, Mr. Ringer, testified that it would make no sense to add the risk factors given the disparate points of maximum impact. (11/18 RT 254.) Mr. Ringer noted that similar to DEC, the PDEF facility also represents a *de minimis* impact in the screening context even at its point of maximum impact. (*Ibid.*) CRE contends that the

maximum impact area is a matter of conjecture in that ambient air conditions are not static and subject to change depending on temperature, humidity, wind speed, and direction.

Evidence of the record shows CEC & BAAQMD failure to address Disparate impacts.

Complainants' provides following comments to the PRESIDING MEMBERS PROPOSED DECISION (PMPD) with deletions shown as in this ~~example~~ and additions shown in this [example](#) to provide evidence of examples of CEC's and BAAQMD's failure to address disparate impacts on minority and low-income children in the community of Pittsburg. [\[8\]](#)

The CEC discounts the petitioner's (complainant's) (complainant)'s arguments and evidence presented on the Presiding Members Proposed Decision starting on page 3...Petitioners (complainants) proposed to correct the decision starting from page 3 as follows:

"Intervenors Californians for Renewable Energy, [Inc.](#) (CRE) and Community Health First (CHF) were active Intervenors in this proceeding. Both Intervenors expressed concern that project-related emissions would degrade air quality and cause detrimental health effects from toxic air contaminants. The Intervenors submitted copies of documents that were downloaded from the Internet in their efforts to show that the substances emitted by the project were dangerous to public health. Intervenor [CRE provided exhibit 57, "Letter from EPA Region IX to BAAQMD, dated September 23, 1999, offering comments on the Preliminary Determination of Compliance", as evidence of the applicant's and Commission's failure to comply with EPA recommendations for mitigation. ~~Although the~~ The](#) Intervenors presented passionate arguments in support of their positions, the evidence of record clearly establishes that the project ~~complies~~ [fails to comply](#) with all applicable federal, state, and local regulatory programs that are designed to protect the environment and public health. Intervenor [CRE provided for the record exhibits 32, 55, 57, 62, 69, 70, 71, 75, and 77. Exhibit 32 entered by intervenor CHF is the same as exhibit 77 a\) EPA Region IX provided population density and threatened and endangered species identification geographical map of the Delta Energy Center proximity.](#)

BAAQMD and CEC discriminated against the low-income children and the predominantly minority population of Pittsburg in failing to provide monitoring (which was a permit condition in the PDEF 98-AFC-1), and with holding information on particulate matter impacts from the public. Further corrections of the record in the PMPD starting at page 3 are as follows: [\[9\]](#)

Intervenor CAP-IT was concerned about the installation and operation of particulate monitoring station in the Pittsburg-Antioch area. In the Commission's Decision on the Pittsburg District Energy Facility, the PDEF Applicant was directed to work with DEC and BAAQMD to purchase, install, and operate a new particular monitoring station in the project vicinity. Condition AQ-78 is included in his Decision to require DEC to coordinate with the PDEF and BAAQMD to purchase, install, and operate the new particulate monitoring station. DEC will also provide funding to retrofit the existing Pittsburg air monitoring station to collect data on toxic air contaminants. [BAAQMD and the applicant failed to provide current air monitoring station data from the new particulate matter monitoring station. The monitoring stations results should have been made public, and made part of the record prior to issuance of the PMPD. The BAAQMD, applicant, and Commission decided in behalf of the public to with hold this information from the publics review and consideration in this matter. During the November 18, 1999 evidentiary hearing the applicant failed to respond to the question of CAP-IT, on the air monitoring station and it's data](#)

Evidence of the Commission's, BAAQMD's, and Applicant's intent to discriminate.

Evidence of the Commission's, BAAQMD's, and the Applicant's intent to discriminate is their attempt to withhold information from the public on PM10. Complainants cite the transcript of the November 18, 1999 evidentiary hearing, starting at page 53. [\[10\]](#)

Cross-Examination by Ms. Lagana:

Question-Mr. Rubenstein, I have some questions regarding the air monitoring station that this project is sponsoring being installed in Pittsburg, well, actually Pittsburg/Antioch. The station was originally installed on September 19th at a location in Antioch, 1201 West 10th Street. And subsequently the Bay Area Air Quality Management deems it unacceptable for various environmental reasons, is that correct?

Answer -I was not involved in that review, but that is my understanding, yes.

Question-Okay. So the station is going to be removed to another location which Bay Area Air Quality has consented would be more appropriate to be in an environment that would not contaminate the results as the first location would have.

Answer- without judging what they said about the first location - -

Question-correct.

Answer-the answer is yes; the station will be moved to a new location where the Bay Area District has said that it would be suitably located.

Question- okay. When will that new site be in production? Do you have a guesstimate?

Answer-No. I know that from a site visit I took there today, that site preparation work for the relocation actually is going to begin tomorrow. I don't know exactly when the station will be, in fact, relocated. I could make some checks during a break and get that answer for you.

Question- Okay. I would like to know if it's the month of November or December.

Answer I will find that out for you.

Ms. Lagana

Question-since the station, Mr. Rubenstein, was supposed to be in production one year prior to your production of the - -of your power plant, right, prior to the project going into production through construction, there was the - -the station was supposed to be up and running and taking results. That was the requirement of the CEC, one year prior to production, two years after production.

Hearing Officer Geffer- What is your question for the witness?

By Ms. Lagana:

Question- The question is, will that set the time back, so we're now going to be starting September 19th, we would be starting in November or December? So those two months, since the evidence -the data being accepted now, or taken now is not acceptable to the Bay Area Air Quality Management, will the clock now be set at November or December rather than September?

Answer-I'm not sure. There are a couple things

I don't understand. First, - -

Question-Okay, - -

Answer- -is as I said, I don't know what the Bay Area District's determination was regarding the original site. So, I can't say whether it's because they thought the data were going to be inaccurate or not.

Answer- yes, they did, I read the letter."

Complainants' objects to the Commission and BAAQMD's failure to provide current air monitoring data and a local PM10 monitoring site as stipulated in the conditions of 98-AFC-1 the PDEF.

**Adversely impacted minority populations mandates thorough
alternatives analysis as mandated by
Environmental Justice guidelines**

Complainants believe that the presence of adversely impacted minority populations and low-income children within the impact zone as identified in the non zero PM10 impact area of figure C-12 of exhibit 55 mandates a more thorough alternatives analysis as mandated by Environmental Justice guidelines. Complaints cite Comments on the Presiding Members Proposed Decision [\[11\]](#) for addendum [\[ix\]](#)

Disparate impacts from air emissions on the community of Pittsburgh

From CARE's written testimony on the Delta Energy Center [\[12\]](#)

Petitioner (complainant) position is that the FSA's failure to comply with CEQA in its alternatives sections resulted in the failure to mitigate adverse impacts on air quality from this project. The applicant proposes to mitigate both regional and cumulative air quality impacts from this project through the use of trading of emission reduction credits (ERCs). Current EPA policy does not encourage the use of ERCs. Petitioner (complainant) cites the letter to BAAQMD Air Pollution Control Officer, Ellen Garvey, from EPA Region IX Chief Permits Officer, Matt Haber, titled EPA Comments on the Preliminary Determination of Compliance for the Delta Energy Center - September 23, 1999 page 2 where it states,

"The source plans to use the provisions for interpollution trading under District rules and provide 81.8 tons of VOC ERC in place of the required NOx ERCs. In the EPA's notice proposing limited approval/disapproval of Regulation 2 Rules 1,2 and 4 (63 FR 59924), EPA identified interpollution trading of NOx and VOC as a significant approvability issue. The District rule does not contain adequate safeguards to ensure an overall air quality benefits from this type of trading."

Petitioner (complainant) contends that without interpollution trading the applicant cannot mitigate the adverse air quality impacts associated with this project which are both cumulative and regional impacts and should have been examined in the alternatives analysis. EPA's citation of this as a "significant approvability issue" because it "does not contain adequate safeguards to ensure overall air quality benefits" demonstrates staff's and counsel's mistaken assumption in that, "staff has not found a significant air impact associated with this project". This serves to demonstrate the inadequacy of staff's analysis.

Petitioner (complainant) has reviewed the BAAQMD FDOC for resolution of this concern for interpollution trading with EPA Region IX Matt Haber Chief Permits Office as identified in exhibit F. In the FDOC attachment C-1 titled Offsetting NOx emissions with POC reductions is referred to on Page 20 of the FDOC. This is the only reference petitioner (complainant) could find to EPA's concern, and it is unclear to petitioner (complainant) who the parties in this memo represent in this process.

Petitioner (complainant) has reviewed the FDOC in regards to offsets for PM10. Page 19 of the FDOC states in this regard,

"With projected PM10 emissions of greater than 100 tons per year, the DEC is considered to be a Major Facility for PM10 pursuant to District Regulation 2-2-220.1. Therefore, emission offsets must be provided at a ratio of 1.0 to 1.0 pursuant to District Regulation 2-2-303. Pursuant to District Regulation, 2-2-303.1, the applicant has opted to provide SO2 ERCs to offset a portion of the proposed PM10 emission increases at offset ratios deemed appropriate by the APCO. As stated earlier, the standard BAAQMD interpollutant trade-off ratios for the Pittsburgh area is 3 to 1 for SO2 to PM10."

Petitioner (complainant) contends that the major source of PM10 in the state of California is NOx in reaction with ammonia producing Ammonium Nitrate not SO2 that the applicant has opted to provide as ERC offsets of

NOx. Therefore the applicant's offset for PM10 fails to properly mitigate PM10 impacts from this project.

"Petitioner (complainant) would also include that the EPA doesn't agree with the applicant's use BACT limits for POC emissions from the gas turbines/HRSG duct burners proposed by the BAAQMD in their Preliminary Determination of Compliance for the Delta Energy Center. The EPA instead requires the use of the Federal LAER since the location of the Delta Energy Center is in a region of the state in non-attainment for Ozone. Petitioner (complainant) cites the letter to the BAAQMD from the EPA page 1 where it states,

"EPA does not agree with the Best Available Control Technology (BACT) limit for POC from the gas turbines/HRSG burners proposed by the Bay Area Air Quality Management District (District) in the Preliminary Determination of Compliance (PDOC). As the District is aware, Rule 2 of Regulation 2 requires BACT to be at least as stringent as the federal Lowest Achievable Emission Rate (LAER). Neither the limit listed from District BACT Guideline 89.s.1 nor "expected" POC emission rate satisfy federal LAER."

Petitioner (complainant) contends that air quality non-attainment is a regional problem associated with air pollution emissions in the San Francisco Bay Area, and the greater Sacramento Valley, and as such, cumulative air quality impacts should be evaluated based on impacts to the entire region, not limited to within a six-mile radius of the project

Petitioner (complainant) has reviewed the BAAQMD FDOC for resolution of the concern "EPA does not agree with the Best Available Control Technology (BACT) limit for POC from the gas turbines/HRSG burners proposed by the Bay Area Air Quality Management District (District) in the Preliminary Determination of Compliance (PDOC)" with EPA Region IX Matt Haber Chief Permits Office as identified in exhibit F. On page 15 of the FDOC it under Precursor Organic Compounds (POCs) it states:

"In response to comments from EPA and ARB, the applicant has accepted a BACT specification of 2 ppmvd POC @ 15% O2 that will apply during all operating modes except start-up and shutdown. This converts to an emission factor of 0.00251 lb/MM BTU and a mass emission rate of 5.03 lb/hr."

Petitioner (complainant) contends that the EPA requires 1 ppmvd for POC not the FDOC specified 2 ppmvd. In regards to this on page 2 of exhibit F it states,

"The PDOC states that an oxidation catalyst is BACT, but then goes on to say that the applicant's emission limit is not based on the use of an oxidation catalyst. EPA disagrees with the assertion in the PDOC that the oxidation catalyst will not significantly control POC. Source test data provided by ARB suggests that this type of catalyst will result in ROC levels from turbines on the order of 1.0 ppmvd. Additionally, there is evidence that a 1.0ppmvd limit has been achieved in practice. Source test data for the Crockett Cogeneration Co. Plant in Crockett, CA show that the plant is meeting this level, while the Bear Mountain Ltd. Cogen facility in Bakersfield, CA, is permitted at 0.6 ROC (equivalent to POC)... Collectively, these evidence and data are the basis for EPA's assessment that BACT for this project is 1.0 ppmvd."

Petitioner's (complainant's) position is that the BAAQMD FDOC and the FSA failed to identify potential significant unmitigated adverse impacts on air quality and public health resulting from particulate matter PM10 and PM2.5 potentially in excess of 1,681 tons annually. Petitioner's (complainant's) contention is that the FDOC and FSA failed to analyze the potential impacts of 357 tons of ammonia slip cumulatively with respect to four out of ten of California's largest stationary sources of NOx, including number one Shell Martinez Refining Company at 4,447 tons/year. These four sources are within near proximity to the proposed DEC and have net

annual NO_x emissions of 14,298 tons/year. For further testimony in this matter petitioner (complainant) cites exhibit G:

“In this case, the treatment technology that Calpine has chosen to reduce its NO_x emissions will have the collateral effect of significantly increasing the presence of tiny particulate matter in the vicinity of the facility. The vast majority of increase particulates will be smaller than 2.5 microns in diameter (PM_{2.5}). EPA has recognized that the smaller fraction particulates pose an even greater health risk with respect to respiratory disorders than more coarse particulates. Other treatment technology options for NO_x exist that would not have resulted in such a large increase in particulate matter emissions.”

Calpine’s emissions limit for NO_x is based on its proposal to use Selective Catalytic Reduction (“SCR”) as a central component of its NO_x treatment technology. See EPA’s Ambient Air Quality Impact Report (“Air Quality Report”) at 4. SCR uses ammonia as a reducing agent in controlling NO_x emissions from gas turbines. The portion of the unreacted ammonia passing through the catalyst and emitted from the stack is called “ammonia slip.” Ammonia is currently unregulated as an air contaminant. However, it is recognized to contribute to ambient concentrations of both PM₁₀ and PM_{2.5}.

The California Air Resources Board recently released a document entitled “Guidance for Power Plant Siting and Best Available Control Technology” (“CARB Guidance”)(excerpted hereto as Exhibit C. The CARB Guidance recognizes the relationship between ammonia slip and increased levels of particulate matter, including PM_{2.5}:

Ambient PM_{2.5} is composed of a mixture of particles directly emitted into the air and particles formed in air from the chemical transformation of gaseous pollutants (secondary particles). Principle types of secondary particles are ammonium sulfate and ammonium nitrate formed in air from gaseous emissions of sulfur oxides and NO_x, reacting with ammonia. Studies conducted in the South Coast Air Basin by Glen Cass of Caltech have indicated that ammonia is a primary component in secondary particulate matter. As a result, districts should consider the impact of ammonia slip on meeting and maintaining PM₁₀ and PM_{2.5} standards.

CARB Guidance, page 24.

Complainants cite SUTTER POWER PROJECT PSD Appeal No. 99-6.

“Calpine’s emission limitation for NO_x includes an ammonia slip of 10 ppmvd corrected to 15% O₂ and averaged over 1 hour. Further assuming that one lb mole of NH₃ reacts to form one lb mole of NH₄NO₃, up to 438 tons/yr (2,398 lb/day) of secondary PM₁₀ could be formed in the stack and downwind assuming adequate HNO₃ is available. [1] These collateral PM₁₀ emissions are nearly five times higher than the proposed controlled maximum annual operational PM₁₀ emissions from the Project (92.5 tons/yr). AFC Table 8.1-21. Most of this additional PM₁₀ will be extremely small particles, less than 2.5 microns in diameter.”

Petitioner (complainant’s) cite page 9 Table 3 of the FDOC for 714,669 pounds/year of ammonia slip from the Delta Energy Center. This is equivalent to 357.33 tons/year of ammonia slip.” Assuming the worst case scenario of 100% reaction of ammonia slip with NO_x in the mornings and evenings during periods of plant startup and shutdown, high relative humidity, and lower air temperatures the total potential for PM₁₀ and PM_{2.5} is given by 357.33 tons NH₃ times 80 tons NH₄NO₃ per ton mole divided by 17 tons NH₃ per ton mole gives 1,681 tons of particulate matter per year. Petitioner (complainant) contends the failure of the FSA and FDOC to address this impact fails to mitigate potential significant disparate impacts on public health and human mortality in proximity to the proposed project.

BAAQMD, CEC, and CARB discriminated in failing to

perform an Environmental Justice analysis

BAAQMD, CEC, and CARB discriminated against the low-income children and the predominantly minority population of Pittsburg in failing to perform an Environmental Justice analysis on disparate impacts from air emissions on the community of Pittsburg. Complainants cite CARE's Comments on the Presiding Member's Proposed Decision from page 105 of the PMPD as follows:[\[13\]](#)

Operation of the Delta Energy Center will create combustion products and utilize certain hazardous materials that could expose the general public and workers at the facility to potential health effects. The following sections describe the regulatory programs, standards, protocols, and analyses that address these issues.

A.AIR QUALITY

This section examines the potential adverse impacts of criteria air pollutant emissions resulting from project construction and operation. The Commission must find that the project complies with all applicable laws, ordinances, regulations, and standards related to air quality. National ambient air quality standards (NAAQS) have been established for six air contaminants identified as criteria air pollutants. These include sulfur dioxide (SO₂), carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂), lead (Pb), and particulate matter less than 10 and 2.5 microns in diameter (PM₁₀ and PM_{2.5}) and their precursors: nitrogen oxides (NO_x), volatile organic compounds (VOC), and Sox. The federal Clean Air Act 45 requires new major stationary sources of air pollution to comply with New Source Review (NSR) requirements in order to obtain permits to operate. The U.S. Environmental Protection Agency (EPA), which administers the Clean Air Act, has designated all areas of the United States as attainment (air quality better than the NAAQS) or nonattainment (worse than the NAAQS) for criteria air pollutants.

SUMMARY OF EVIDENCE The project site is within the Bay Area Air Quality Management District's (BAAQMD or Air District) jurisdiction 46 and is classified as a federal attainment area for NO₂, PM₁₀, Pb, and SO₂. (Ex.63, Table 4.5-9;Ex.2, /8.1.2.) Attainment areas must comply with the federal Prevention of Significant Deterioration (PSD) regulations. Consequently, the project is subject to PSD review for NO₂, PM₁₀, and CO. Emissions of SO₂ are below PSD significance criteria. (*Ibid.*) The air district is currently nonattainment for the federal O₃ standard. (Ex.63, pp.4.5-8, 4.5-9,4.5-16.)

California ambient air quality standards (CAAQS) promulgated by the California Air Resources Board (CARB) are, in general, more stringent than the federal standards. (Ex.28, p.20.) The Air District is considered a nonattainment area for O₃ and the 24-hour average PM₁₀ state standards. (Ex.2, / 8.1.2;Ex.63, Table 4.5-2.)

The EPA, BAAQMD, and CARB worked together with the Energy Commission to determine whether the project's emissions would cause significant air quality impacts and to identify appropriate mitigation measures to reduce potential impacts to levels of insignificance. (11/18 RT 143-146.)

1.BAAQMD s Final Determination of Compliance

On October 25,1999,BAAQMD released its Final Determination of Compliance (FDOC). The FDOC concludes that DEC will comply with all applicable air quality requirements, and imposes certain conditions necessary to ensure compliance. (Ex.58, 73.) Pursuant to Commission regulations, the conditions contained in the FDOC are incorporated into this Decision. (Cal. Code of Regs. tit.20, //1744.5,1752.3.) The Air District witness, Dennis Jang, testified that the project would comply with BAAQMD s strict requirements, and with state and federal regulations.49 (11/18 RT 143.) Federal and state ambient air quality standards are shown in **Air Quality** Table 1. [Intervenor CRE filed an appeal of BAAQMD's Final Determination of Compliance \(FDOC\) with the U.S. EPA Environmental Appeals Board \(EAB\) received on November 18, 1999, which](#)

contests BAAQMD's and CEC's findings of compliance.

The EPA Environmental Appeals Board (EAB) discriminated against the low income children and the predominantly minority population of Pittsburg in its refusal to review and subsequent denial of the appeal of a PSD (PSD99-76) permit for the Delta Energy Center, without a federal mandated Environmental Justice Analysis that identified the community of Pittsburg as a target Environmental Justice population due consideration by the board as such.

Complainants cite corrections to the Delta Energy Center PMPD as follows:

2. California Environmental Quality Act (CEQA) Requirements

The Commission not only reviews compliance with Air District rules but also evaluates potential air quality impacts according to CEQA requirements. The CEQA Guidelines provide a set of significance criteria to determine whether a project will:

(1) Conflict with or obstruct implementation of the applicable air quality plan;(2) violate any air quality standard or contribute substantially to an existing or projected air quality violation;(3) result in a cumulatively considerable net increase of any criteria pollutant for which the region is nonattainment for state or federal standards;(4) expose sensitive receptors to substantial pollutant concentrations; and (5) create objectionable odors affecting a substantial number of people. [Cal. Code Regs. tit. 14, Appendix G (CEQA Guidelines, Appendix G).]

Staff's witness, Mr. Badr, testified that DEC would not violate any local, state, or federal air quality standards nor contribute to significant cumulative impacts. (11/18 RT 109-110,120-121;Ex.54, pp.17-18; see also, the testimony of Staff witness, Mr. Franco at 11/18 RT 127 et seq.; Ex.55.) The following discussion provides an overview of air quality in the Pittsburg area and describes the analyses that support the conclusions reached by BAAQMD and Staff. [Intervenor CRE provided written \(Ex. 62\) and oral evidence at the November 18, 1999 hearing that demonstrates that this project will violate air quality standards and contribute substantially to existing air quality violations for Ozone and PM10, and that this will result in cumulative considerable increases of the criteria pollutants NOx and PM10. CRE further identified exposure of sensitive receptor to substantial pollution concentrations in the form of PM10 and TACs.](#)

Complainants cite corrections to the Delta Energy Center PMPD as follows:[\[14\]](#)

b. Ambient Air Quality

Applicant relied on ambient air data from the air quality monitoring station in Pittsburg, located on 10th Street, which measures ozone, CO, NO2, and SO2. (Ex.2, /8.1.3.) The data on ambient PM10 concentrations were obtained from the Bethel Island monitoring station, 12 miles east of DEC in Contra Costa County. (Ex.43, p.4.) Historically, the highest measured PM10 concentrations in the county occur at Bethel Island. (Ex.54, pp.3, 8.) **AIR QUALITY** Figure 1 summarizes the historical air pollutant concentrations in the Pittsburg area from 1988-1997. Concentrations above 1.00 are those that exceed the most stringent air quality standard. [Intervenor CRE disagrees that air pollution data is representative of existing conditions as the data is from monitoring stations too far from the proposed site and is over 3 years old and therefore out dated. In a letter from Dennis Jang of BAAQMD to Jim MacDonald dated Oct. 27, 1999. Mr. Jang confirms that 1. "Monitoring data must be representative of the ambient air quality of the proposed facility impact area." 2. "... Three years of data is considered to be representative of long-term ambient conditions," 3. "... There is not sufficient time for the District to collect significant monitoring data..." and 4. "...BAAQMD did not conduct a formal analysis of the potential environmental justice ramifications of the Delta Energy Center..."](#)

I. Ozone

The Pittsburg area has experienced, in general, an average of four or five days a year with violations of the 1-hour state standard for ozone. (Ex.54, p.4.) Regional violations of the EPA's less stringent 1-hour national standard were also recorded in recent years. (*Ibid.*) Ozone formation is influenced by year-to-year changes in atmospheric conditions. Therefore, the long-term trend in ambient ozone levels is a more accurate indicator of whether a region is experiencing overall ozone reduction. (*Ibid.*) ~~As shown in Air Quality Figure 2, the long term trend shows that Contra Costa County has made significant progress toward attainment of the 1-hour national standard. BAAQMD is developing strategies to bring the air basin into attainment.~~ As shown in Air Quality Figure 2 air quality attainment for ozone was only achieved in 1992, 1993, and 1994 (prior to deregulation and the use of ERCs). Following this time period a constant level on non-attainment for the 1-hr ozone was maintained until the last recorded data in 1997 (when deregulation occurred). BAAQMD fails to provide current ozone attainment data and therefore fails to provide current evidence of attainment for ozone and therefore evidence that BAAQMD's strategies for attainment are working. (*Ibid.*)

AIR QUALITY Figure District Ozone Design Value 1970-1998

Each design value represents the fourth highest concentration recorded in the air basin during the previous three years. Design values are used to determine attainment status. (Source: Ex.54, p.5; BAAQMD, 1998.)

II. Carbon Monoxide

The highest CO concentration levels in Pittsburg are at least one-half lower than the most stringent California standards shown in Figure 1. (Ex.54, p.5.) The mobile sector (cars, trucks, buses) is the main source of CO. Peak CO concentrations occur during rush hour traffic in the morning and afternoons, and in the late evening due to wood burning in residential fireplaces. (*Id.*, p.6.) All counties in California, except for Los Angeles County, are in compliance with the stringent state requirements and are expected to remain in compliance into the future. (*Ibid.*)

III. Nitrogen Dioxide

NO₂ levels in Pittsburg are one-half or less of the most stringent 1-hour ambient air quality standard shown in Figure 1. (Ex.54, p.6.) Approximately 90 percent of the NO_x emitted from combustion sources is NO, while the balance is NO is oxidized in the atmosphere to NO₂ but some level of photochemical activity (sunlight) is needed for this conversion. The highest levels of NO₂ occur in the fall. In the summer, although the conversion rates of NO to NO₂ are high, the heat and windy conditions disperse pollutants, preventing accumulation of NO₂ to levels approaching the 1-hour ambient air quality standard. (*Ibid.*) ~~Ambient NO₂ concentrations should not increase in the foreseeable future due to implementation of the control measures already included in the air quality management plans approved by BAAQMD.51 (Ex.54, p.17.)~~ BAAQMD fails to provide current NO₂ attainment data and therefore fails to provide current evidence of attainment for NO₂ and therefore fails to provide evidence that BAAQMD's strategies for attainment are working.

NO is oxidized in the atmosphere to NO₂ but some level of photochemical activity (sunlight) is needed for this conversion. The highest levels of NO₂ occur in the fall. In the summer, although the conversion rates of NO to NO₂ are high, the heat and windy conditions disperse pollutants, preventing accumulation of NO₂ to levels approaching the 1-hour ambient air quality standard. (*Ibid.*) ~~Ambient NO₂ concentrations should not increase in the foreseeable future due to implementation of the control measures already included in the air quality management plans approved by BAAQMD.51 (Ex.54, p.17.)~~ BAAQMD fails to provide current NO₂ attainment data and therefore fails to provide current evidence that BAAQMD's strategies for attainment are working.

IV. Particulate Matter (PM)

Fine particulate matter (PM10) is caused by a combination of wind-blown fugitive dust; particles emitted from combustion sources (usually carbon particles); organic, sulfate and nitrate aerosols formed in the air from emissions of gaseous pollutants; and natural aerosols. (Ex.43, p.5; Ex.2, /8.1.3.6.) PM 10 levels have been measured below national standards but above state standards at the Bethel Island monitoring station over the last ten years. (*Ibid.*) The highest PM10 concentrations occur during the winter, when the contribution of ground level releases to ambient PM concentrations is disparately high due to emissions from wood-burning fireplaces. State air agencies have begun installing monitors to measure particulates smaller than 2.5 microns (PM2.5), which are produced, *inter alia*, in wood smoke. (Ex.54, p.9.) The new particulate monitoring station in Antioch will measure both PM10 and PM2.5. (Condition AQ-78.) BAAQMD and the applicant failed to provide current air monitoring station data from the new particulate matter monitoring station. The monitoring stations results should have been made public, and made part of the record prior to issuance of the PMPD. The BAAQMD, applicant, and Commission decided in behalf of the public to with hold this information from the public's review and consideration in this matter. During the November 18, 1999 evidentiary hearing the applicant failed to respond to the question of CAP-It, on the air monitoring station and it's data.

4.Potential Impacts –

Applicant used EPA-approved computer models to simulate the worst-case emission impacts, using meteorological data collected at the Pittsburg Power Plant station between 1994-1997. (Ex.2, /8.1.4.1.2;Ex.54, p.14.) Intervenor CRE identified (Ex. 62)[15] during the November 18, 1999 hearing that the worst-case impact of ammonia slip in reaction with NOx was not identified in the FDOC or FSA. Assuming the worst case scenario of 100% reaction of ammonia slip with NOx in the mornings and evenings during periods of plant startup and shutdown, high relative humidity, and lower air temperatures the total potential for PM10 and PM2.5 is given by 357.33 tons NH3 times 80 tons NH4NO3 per ton mole divided by 17 tons NH3 per ton mole gives 1,681 tons of particulate matter per year. Intervenor CRE contends the failure of the FSA and FDOC to address this impact fails to mitigate potential significant impacts on public health and human mortality in proximity to the proposed project. BAAQMD fails to provide current attainment data and therefore fails to provide current evidence of attainment and therefore evidence that BAAQMD's strategies for attainment are working. Intervenor provided demographic data in graphical form to the Commission in Intervenor CRE's *Rebuttal to Senior Staff Counsel Dick Ratliff's Brief on the Delta Energy Center Project Alternatives* dated November 4, 1999. Known EPA Regulated Sites data was provided to Intervenor CRE by EPA Region IX Environmental Justice Division and is shown as figure 2

The EPA Environmental Appeals Board (EAB) discriminated against the low income children and the predominantly minority population of Pittsburg in its refusal to review and subsequent denial of the appeal of a PSD (PSD99-76) permit for the Delta Energy Center, without a federal mandated Environmental Justice Analysis that identified disparate impacts from particulate matter on the community of Pittsburg as a target Environmental Justice population due special considerations by the board as such.

Complainants cite corrections to the Delta Energy Center PMPD as follows:

d. Cumulative Impact Analysis

~~Although DEC's emissions do not result in a direct violation state or federal standards, the~~ The project's emissions are potentially cumulatively considerable under CEQA since they have the potential to contribute to an existing air quality problem as the region is nonattainment for state and federal ozone standards, and the state 24-hour average PM10 standard. (11/18 RT 48;Ex.54, p.17-18.) Intervenor CRE filed an appeal of BAAQMD's Final Determination of Compliance (FDOC) with the U.S. EPA Environmental Appeals Board

(EAB) received on November 18, 1999, which contests BAAQMD's and CEC's findings of compliance.

As discussed above, these standards are infrequently violated, and the contribution of the project to regional emissions is relatively small. (See Ex.63, Table 4.5-17.) CRE notes for record that the air data is not current and non-site specific to this project. "Condition AQ-78 is included in his Decision to require DEC to coordinate with the PDEF and BAAQMD to purchase, install, and operate the new particulate monitoring station", and the Commission has failed to perform this condition of the PDEF, or provide data for public review of the particulate matter monitoring station it had up and running. Nevertheless, Staff performed a cumulative impacts analysis to examine the combined effects of the proposed project, PDEF, and the existing Contra Costa and Pittsburg power plants (recently purchased by Southern Energy from PG&E.) Known EPA Regulated Sites data was provided to Intervenor CRE by EPA Region IX Environmental Justice Division and is shown as figure 2. The emissions of other existing industrial sources in the area, such as Dow Chemical and oil refineries were ~~excluded~~ ~~included in the ambient background air quality data used in the modeling.~~ cumulative impacts analysis to examine combined effects (Ex.55.) It is the Intervenor CRE's contention that the failure to meet the requirements of CEQA for alternatives, and alternative siting resulted in a failure to identify and mitigate cumulative adverse air quality impacts and the associated risk to public health. Intervenor's position is that the FSA fails to discuss cumulative impacts associated with other projects and their association with alternative sites for the DEC. Intervenor CRE wishes to cite further case evidence the CEQA Case "Laurel Heights Improvement Association of San Francisco, Inc., v. The Regents of the University of California" issued by the Court of Appeals, "First, it *found the EIR did not adequately describe the "project" within the meaning of CEQA because the EIR did not discuss the future cumulative effects* of the relocation of additional UCSF operations to the Laurel Heights site. Second, *the Court of Appeal found inadequate the EIR's discussion of project alternatives.* Third, *the court found no substantial evidence to support the Regents' conclusion that all significant environmental effects will be mitigated.*"

The maximum cumulative NO₂ impacts from all the sources are mostly due to the higher emissions from Pittsburg Power Plant, because it is an older, less efficient power plant. Mr. Franco testified for Staff that the maximum cumulative impact was almost exclusively due to the Southern plant but the PM maximum impacts for the other plants, including DEC, did not overlap. (11/18 RT 131-132.) The emissions from the Pittsburg Power Plant does not contribute substantially to the maximum expected cumulative impacts from the modeled power plants, however, because its plume does not interact with the plumes from the other modeled power plants. (Ex.54, p. 17.) During cross-examination by intervenor CRE of Mr. Franco at the Commission's air hearing of November 18, 1999 the witness identified Figure C-12 (Ex. 55) Non-zero PM₁₀ concentrations as the impact zone of PM₁₀ greater than $1\text{e}^{-7} \text{ g/m}^3$ for the intervenor. Intervenor CRE also identified this as the impact zone during the formation of PM₁₀ in reaction between the ammonia slip and NO_x emissions from known EPA regulated sites. (Fig.2, & Ex. 77b) CRE contends this also serves as the impact zone for purposes of environmental justice analysis.

5. Mitigation

The Air District has adopted an air quality management plan, which has an elaborate system of specific requirements, including BACT and offsets as a mitigation program to avoid or substantially lessen the cumulative problem. (11/18 RT 48 ET seq.) The program also includes retrofit requirements on existing power plants to continually ratchet down their current emissions. (11/18 RT 43-47.)

a. Best Available Control Technology (BACT)

BAAQMD requires the project to use BACT to control emissions. The project will burn only natural gas (except for the emergency diesel fuel pump). (Ex.43, p.6.) The exclusive use of natural gas will limit the formation of VOC, PM₁₀, and Sox emissions. The combustion turbines will be equipped with low-NO_x

combustors to minimize NO_x formation. (Ex.2, p.8.1-22.) After combustion, the turbine exhaust gases will be treated by Selective Catalytic Reduction (SCR) systems to further reduce NO_x emissions. The FDOC requires Applicant to meet a limit of 2.5 ppm at a one-hour average, which is one of the most stringent requirements imposed on a power plant facility. (Ex. 58.) [“Intervenor CRE would also include that the EPA doesn’t agree with the applicant’s use BACT limits for POC emissions from the gas turbines/HRSG duct burners proposed by the BAAQMD in their Preliminary Determination of Compliance for the Delta Energy Center. The EPA instead requires the use of the Federal LAER since the location of the Delta Energy Center is in a region of the state in non-attainment for Ozone. Intervenor cites the letter to the BAAQMD from the EPA page 1 where it states,](#)

[”EPA does not agree with the Best Available Control Technology \(BACT\) limit for POC from the gas turbines/HRSG burners proposed by the Bay Area Air Quality Management District \(District\) in the Preliminary Determination of Compliance \(PDOC\). As the District is aware, Rule 2 of Regulation 2 requires BACT to be at least as stringent as the federal Lowest Achievable Emission Rate \(LAER\). Neither the limit listed from District BACT Guideline 89.s.1 nor “expected” POC emission rate satisfy federal LAER.”](#)

Intervenor contends that air quality non-attainment is a regional problem associated with air pollution emissions in the San Francisco Bay Area, and the greater Sacramento Valley, and as such, cumulative air quality impacts should be evaluated based on impacts to the entire region, not limited to within a six-mile radius of the project

To control CO and VOC, BAAQMD s guidelines identify an oxidation (CO) catalyst at the typical technology used to minimize emissions. (Ex.54, p.19.) Applicant does not propose to use post-combustion oxidization catalyst because the project will meet BACT requirements without the catalyst. Applicant’s witness, Mr. Rubenstein, testified that low hydrocarbon levels are met by current equipment with or without the catalyst. (11/18 RT 149.) Mr. Badr testified that, to his knowledge, the Commission has never licensed a project without requiring a CO catalyst. (*Id.* at p.152.) Although the FDOC finds that the project meets the CO and VOC standards without the catalyst, the advantage of a catalyst is lower hydrocarbon emissions. (*Id.* at 147-148.) The FDOC provides that DEC must install the CO catalyst if BACT levels are not achieved, and further requires that the HRSGs and other equipment be configured to allow the catalyst to more easily be installed if necessary. (*Id.* at 155.)

PM10 will be controlled by inlet air filtering for the combined cycle CTG and HRSG unit since natural gas contains only trace quantities of noncombustible material. (Ex.54, p.20.) In addition, the cooling tower includes 0.0006 percent drift eliminator efficiency to reduce PM10 emissions associated cooling tower operations. (*Ibid.*) Conditions [AQ-72-73](#) ensure that the drift eliminator meets this standard. [CRE identifies that PM10 for the stacks is not regulated. Intervenor contends that the major source of PM10 in the state of California is NO_x in reaction with ammonia producing Ammonium Nitrate.](#)

Emissions of SO₂ will be controlled by using natural gas, which typically contains only traces of sulfur. The resulting SO₂ emission concentrations will be less than 1.0 ppm @15%O₂. (Ex.54, p.20.)

b. Emission Reduction Credits/Offsets

Emission Reduction Credits (ERCs or offsets) are created when existing permitted emission sources cease or reduce their operations below permitted levels. (Ex.54, p.20.) The ERCs are reviewed, approved, and banked by the Air District. (*Ibid.*) The Air District s rules require offsets for PM10 and ozone emissions. (11/18 RT 38-39;Ex.58.) [Intervenor CRE contends that the major source of PM10 in the state of California is NO_x in reaction with ammonia producing Ammonium Nitrate not SO₂ that the applicant has opted to provide as ERC offsets of NO_x. Therefore the applicant’s offset for PM10 fails to properly mitigate PM10 impacts from this](#)

project. Air Quality Table 3 in the PMPD page 119 amplifies this contention with a shown net increase in NOx and PM10 emission offset to below regulatory attainment levels utilizing SOx ERCs.

In response to concerns from Staff and local residents, Applicant has provided offsets from the local region. (11/18 RT 52-53.) In addition, Staff requested the Air District to require offsets for cooling tower PM10 emissions. (Ex.54, p.22; 11/18 RT 40.) Condition AQ-77 requires DEC to provide these additional offsets from the Spreckels facility. Air Quality Table 3 lists the offsets proposed by Applicant. CRE contests the Commissions failure to identify the number of jobs lost during plant shutdowns, which generated the ERC sources listed in Air Quality Table 3 in the PMPD page 119 in the Commission's socioeconomic analysis.

c. Additional Mitigation

As described by Mr. Rubenstein, additional mitigation proposed by Applicant includes:

- The new air monitoring station in Antioch that will collect meteorological data as well as PM10 and PM2.5 data;
- Improvements to BAAQMD's Pittsburg monitoring station to provide air toxics measurement capabilities comparable to the Bethel Island station; and,
- Routine analysis of data collected at the Pittsburg, Bethel Island, and new Antioch stations, with reports prepared and distributed to interested parties every six months. (Ex.43, p.7.)

6. Intervenor

Intervenor CAP-IT, CHF, and CRE were concerned that PM10 data from the Bethel Island monitoring station were not representative of ambient levels in Pittsburg. Staff's testimony indicated that Bethel Island is appropriate because of its proximity to the project site and the fact that it lies in the east-west fluctuation that dominates the local/regional wind pattern. (11/18 RT 111-112.) Both Staff and Applicant believe that PM10 levels at Bethel Island may be higher than those in Pittsburg. (*Id.* at 137-138.)

CHF and CRE believe that the Air District's requirement for ammonia slip (10 ppm) is too high, citing a CARB guideline that suggests a lower limit (5 ppm). Staff explained that the CARB guideline is based on an assumed NOx level of 2ppm on a three-hour average while the project is limited to 2.5 ppm on a one-hour average. (11/18 RT 116-118.) The shorter averaging time may require greater short-term ammonia use and a resulting higher level of ammonia slip that would be appropriate to maintain the 2.5-ppm level for NOx. (*Ibid.*)

Finally, Staff concluded that the project would not expose sensitive receptors to substantial pollutant concentrations. Applicant, BAAQMD and CEC have failed to identify "sensitive receptors" and perform analysis specific to these sites. List of specific sensitive receptors: nearest residents approx. 3/4 mile. Within approx. 1.5 miles: El Pueblo HUD housing, Martin Luther King elem. used as a preschool and head start program for low income residents, county medical clinic, Los Medanos College, Bell-Clark Babe Ruth Baseball Fields Antioch, Turner School Ant., Kaiser Med. Cen. Ant. Within approx. 2 miles: Pittsburg High School, Adult ed., Stoneman elem., Central Jr. High, Pitts. Sr. Center, Los Medanos Sr. Center, Contra Costa fairgrounds, Prospects High Ant., Alt. Ed. Center & Antioch Adult School. Rec. Cen.& Senior Center, Ant. High School. Ant. Jr. high School. Fremont School, Live Oak HS, Kimball School, Marsh School, Mission School, Sutter School, Delta Memorial. Hosp. Within approx. 3 miles: Pitts. Alt. Ed., Parkside School. Los Medanos School. Heights School, Hillview Jr. School, Highland School, Foothill School. PM10 impacts, even using worst-case calculations were well below the Air District's PSD threshold for significance. Assuming optimal weather conditions in the reaction of NOx and ammonia slip. (Ex.55, p. C-12.) ~~Staff noted that these less than significant impacts would occur immediately adjacent to the plant and not in residential areas. (*Ibid.*) Applicant's witness, Mr. Rubenstein, testified on cross-examination by (b) (6) Privacy of CHF that no one is~~

~~going to be breathing the plume until it has been diluted to the point where concentrations are immeasurable. (11/18 RT 65:19-22.)~~

COMMISSION DISCUSSION

Intervenors CHF and CRE raised concerns primarily about the chemistry involved in modeling studies performed by Staff and Applicant. (Exs.62, 67, and 68.) They also challenged BAAQMD's comprehensive regulatory program and questioned whether the FDOC complied with EPA and CARB guidelines. ~~The evidence overwhelmingly supports a finding that the modeling assumptions were appropriate, that the regulatory agencies cooperated with each other, and that the FDOC incorporated the most stringent feasible standards applicable to power plants in the Air District. The Intervenors did not present any credible rebuttal to the Air District's conclusions. Accordingly, we adopt the Air District's recommendations and find that the project conforms to all applicable federal, state, and local laws related to air quality.~~ The evidence overwhelmingly supports a finding that modeling assumptions fail to meet BAAQMD requirements –

“Monitoring data must be representative of the ambient air quality of the proposed facility impact area.”

“... Three years of data is considered to be representative of long-term ambient conditions”.

Intervenors CRE and CHF provided substantial evidence for the record in rebuttal to the Air District's conclusion otherwise, (Ex. 55, 57, 62, & 77) that this project fails to meet the requirements of applicable federal, state, and local laws related to air quality.

The Commission has typically required a CO catalyst in previous certification proceedings. In this case, the evidence indicates that the projects will likely meet BACT for CO and VOC without using a CO catalyst. Indeed, the FDOC does not require a CO catalyst; however, Condition AQ 30 provides that DEC will install such catalyst if project emissions exceed permitted levels. Staff did not take a clear position on whether to require the catalyst in the project design. Since the Applicant is willing to take the risk that the project could be shut down to install the catalyst, the Commission does not find it necessary to impose a requirement to install the catalyst at this time. ~~We believe that adequate safeguards are in place to ensure the project will operate at the permitted levels approved in the FDOC.~~

FINDINGS AND CONCLUSIONS

Based on the evidence of record, the Commission makes the following findings and conclusions:

1. National ambient air quality standards (NAAQS) and California ambient air quality standards (CAAQS) have been established for six air contaminants identified as criteria air pollutants, including sulfur dioxide (SO₂), carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂), lead (Pb), and particulate matter less than 10 and 2.5 microns in diameter (PM₁₀ and PM_{2.5}) and their precursors: nitrogen oxides (NO_x), volatile organic compounds (VOC), and SO_x.
2. The Bay Area Air Quality Management District (BAAQMD or Air District) has jurisdiction over the area where the project site is located.
3. The Air District is a federal attainment area for NO₂, PM₁₀, Pb, and SO₂.
4. The Air District is a non-attainment area for the federal O₃ standard and the California standards for O₃ and PM₁₀. Air monitoring data is older than three years for the proposed project.
5. Operation of the project will result in emissions of NO_x, CO, VOC, SO₂ and particulate matter that will ~~would, if not mitigated,~~ contribute to violations of air quality standards.
6. Applicant relied on data from the air quality monitoring station on 10th Street in Pittsburg that measures ozone, CO, NO₂, and SO₂, that is over three years old.
7. Applicant relied on data from the particulate (PM₁₀) monitoring station at Bethel Island, which is over three years old. The new monitoring station that was a condition of approval of the PDEF was shut down and moved

to an unspecified location for unspecified reasons without data release.

8. The Bethel Island monitoring station records the highest PM10 concentrations in Contra Costa County.

9. The Bethel Island monitoring station is an appropriate and representative site to measure ambient PM10 concentrations for the Pittsburg-Antioch area. Monitoring data must be representative of the ambient air quality of the proposed facility impact area. One limitation of air monitoring is that it is spatially limited to specific monitoring locations

10. DEC will purchase, install, and operate a particulate monitoring station in the Pittsburg-Antioch area, in cooperation with the Pittsburg District Energy Facility (PDEF), and in consultation with BAAQMD. The new monitoring station that was a condition of approval of the PDEF was shut down and moved to an unspecified location for unspecified reasons without data release.

11. DEC will pay for upgrades to the Pittsburg monitoring station on 10th Street to include air toxics measurement capabilities.

12. BAAQMD released its Final Determination of Compliance (FDOC) for the DEC project on October 25, 1999. The conditions contained in the FDOC are incorporated into the Conditions of Certification below.

13. DEC will employ the best available control technology (BACT) to control project emissions of criteria pollutants. Should be Lowest Achievable Emission Rate (LAER) per CEC exhibit 57.

14. DEC's offset package provides more than enough emission reduction credits (ERCs) to satisfy BAAQMD's requirements. BAAQMD provides no evidence of compliance with the District's attainment plan, nor evidence that ERC trading is assisting in reaching attainment goals.

15. DEC's offset package includes ERCs from the local community and surrounding areas. Offsets for specific criteria pollutants are not provided.

16. Condition AQ-27b limits project NOx emissions to 2.5 parts per million (ppm) averaged for one hour.

17. Condition AQ-30 requires DEC to install an oxidation catalyst to control project emissions of CO and VOC if emissions exceed permitted levels.

18. Operation of DEC in combination with PDEF and the two existing Southern power plants in the Pittsburg-Antioch area will not result in significant cumulative impacts to air quality. No cumulative analysis of DOW and other EPA regulated sites renders the cumulative analysis inadequate.

~~19. Implementation of the Conditions of Certification below ensures that DEC will not result in any significant adverse impacts to air quality.~~

The Commission, therefore, concludes that with implementation of the Conditions of Certification below, DEC will fail to conform with all applicable laws, ordinances, regulations, and standards relating to air quality as set forth in the pertinent portions of APPENDIX A of this Decision.

Complainants cite CARE's Comments on the Presiding Member's Proposed Decision from page 160 as follows:^[16]

In California, the Air Toxics Hot Spots Information and Assessment Act requires the quantification of TACs from specified facilities, which are categorized according to their emissions levels and proximity to sensitive receptors. (Health & Safety Code, /44360 et seq.; Ex.63, p.4.5-11.) If potential health risks are found, the facilities are required to implement various risk reduction measures. (Health & Safety Code, / 44391 ET seq.) Applicant performed a health risk assessment that was reviewed by both Staff and BAAQMD. (Ex.20, p.23; Ex.58.) Applicant's risk assessment employed scientifically accepted methodology that is consistent with the requirements of the California Air Pollution Control Officers Association (CAPCOA) and with risk assessment methods developed by the U.S.EPA. (Ex.20, pp.24-25; 11/18 RT 217, 241.) ~~This procedure emphasizes a worst-case screening analysis in order to evaluate the highest level of potential impact by including all the following:~~

- assuming the highest expected levels of emissions from the source: excluding the stacks and ammonia slip in

reaction with NO_x.

- assuming weather conditions that would result in the highest ambient concentrations;
- using the computer model that results in the highest depicted impacts; [that utilized old data, which was not site specific](#)
- using health-based standards designed to protect the most sensitive member of the population (i.e., children, the elderly, and those with respiratory illness); [excluding sensitive receptors identified by CRE](#)
- calculating the health risks ([excluding risk of human mortality from particulate matter](#)) to a person at the exact location where emissions are theoretically most concentrated (the maximally exposed individual or MEI); and
- assuming that this most sensitive person is exposed to that exact maximum concentration of TACs for 70 years, every day for 24 hours per day; [based on TAC data not representative of existing conditions](#) (Ex.20, p.24.) [and testimony of witness Ms. Lagana at the Commissions 11/18/1999 hearing on public health.](#)

Adversely impacted minority populations mandates a more thorough analysis of impacts on sensitive receptors

2. Impacts

The location of sensitive receptors near the site is an important factor in considering potential public health impacts. Casa Medanos, the nearest residence, is approximately 2,200 feet south of the site. The nearest residences to the east and west are located, respectively, in Antioch at a distance of 5,000 feet and in Pittsburg about 6,500 feet away. (Ex.1, p.7; Ex.20, p.27.) Applicant also considered the locations of other sensitive receptors including schools, hospitals, emergency response facilities, long-term care facilities, and daycare centers within a three-mile radius of the site. (Ex.2, Figures 8.12.1a, 8.12.1b, and 8.12.1c.) [Applicant, BAAQMD and CEC have failed to identify “sensitive receptors” and perform analysis specific to these sites. List of specific sensitive receptors: nearest residents approx. 3/4 mile. Within approx. 1.5 miles: El Pueblo HUD housing, Martin Luther King elem. used as a preschool and head start program for low income residents, county medical clinic, Los Medanos College, Bell-Clark Babe Ruth Baseball Fields Antioch, Turner School Ant., Kaiser Med. Cen. Ant. Within approx. 2 miles: Pittsburg High School, Adult ed., Stoneman elem., Central Jr. High, Pitts. Sr. Center, Los Medanos Sr. Center, Contra Costa fairgrounds, Prospects High Ant., Alt. Ed. Center & Antioch Adult School, Rec. Cen.& Senior Center, Ant. High School Ant. Jr. high School. Fremont School., Live Oak HS, Kimball School, Marsh School., Mission School., Sutter School., Delta Memorial Hosp. Within approx. 3 miles: Pitts. Alt. Ed., Parkside School. Los Medanos School. Heights School. Hillview Jr. School., Highland School., Foothill School.](#)

Determine the actual or possible area of impact of the project.

[During cross-examination by intervenor CRE of staff's witness Mr. Franco at the Commission's air hearing of November 18, 1999 the witness identified Figure C-12 \(Ex. 55\) Non-zero PM10 concentrations as the impact zone of PM10 greater than \$1e^{-7}\$ g/m³ for the intervenor. Intervenor CRE also identified this as the impact zone during the formation of PM10 in reaction between the ammonia slip and NO_x emissions from known EPA regulated sites. \(Fig.2, & Ex. 77b\) CRE contends this also serves as the impact zone for purposes of environmental justice analysis. The evidence of this from the November 18, 1999 hearing is as follows:](#)

["MR. RATLIFF: There is a nice plate for Delta, if that's your question.](#)

[MR. BOYD: Oh, okay, in the back here. Okay, I've got it.](#)

[HEARING OFFICER GEFTER: Tell us what page this is.](#)

[MR. BOYD: I'll tell you in just one second. It's on C-12. Now, this area here is, this square that I cited on -- or the rectangle on 3.2, that's the same area that you're analyzing here for PM10 emissions, right?](#)

MR. FRANCO: Yes, that's correct.

MR. BOYD: Okay, now in your opinion would you say that the PM10 emissions are covering 90 percent of the analysis area?

MR. FRANCO: I mean all depends on what concentrations you want to select.

MR. BOYD: Well, let's say --

MR. FRANCO: No, I mean what I'm trying to say is that the scale goes from impact of zero to impact of around 2.2 micrograms per cubic meter.

MR. BOYD: Okay.

MR. FRANCO: It's a very small -- I mean there is very small quantities. Depending on how many you include you would have -- it would seem that you have a larger and larger -- I mean the more it seems that you have more, a larger impact area.

MR. BOYD: Okay. Now, the reason I'm asking this question is I'm trying to establish what the impact area is of the emissions. Okay, --

HEARING OFFICER GEFTER: Is that your question?

MR. BOYD: And so what would you say, excluding those that are zero, right, that more than 90 percent of the area has some impact from PM10?

MR. FRANCO: I mean the numeric - this is a numerical model, a computer model that gives you -- I mean infinite -- give you as an estimate in passing infinitesimal small numbers, you know what I mean?

MR. BOYD: No, I understand.

MR. FRANCO: So, the --

MR. BOYD: But we're on a scale of zero to 2.2 even --

MR. FRANCO: So what --

MR. BOYD: So what I'm asking you is everything except zero, about more than 90 percent of this analysis then is identified in this figure as being impacted at one level or another by PM10, correct?

MR. FRANCO: That's correct, but most of the impact area is I would say concentrations lower than 1 microgram per cubic meter."

Elevated Levels of Toxic Air Contaminants (TACs) Demonstrates Disparate Impacts

6. Intervenor

Ms. Lagana for CAP-IT (Community Abatement of Pollution and Industrial Toxins) presented testimony about the October 19, 1999, Bucket Results that are discussed in Exhibit 71. CAP-IT's Bucket Brigade captured air samples of VOCs and sulfides at three locations in Pittsburg and Bay Point and sent the samples to the Performance Analytic Lab in Simi Valley for review by Communities for a Better Environment. (11/18 RT 267-268.)

The results showed somewhat elevated levels for specified TACs, but included a caveat that the results were preliminary because the data did not account for background levels detected at regulatory monitoring stations around the Bay Area for each chemical. (11/18/RT 273.) The report also noted that the sampling results are not levels shown in the standard literature to cause acute health problems although some were above expected background levels. (Ex. 71, p.2.) Upon cross-examination by Applicant, Ms Lagana explained there was also possible contamination from the Federal Express box in which the samples were placed for delivery. (*Id.* at p. 274.) The report, however, suggested that many chemicals present together might cause health impacts at lower levels than one chemical by itself. (Ex. 71, p. 2.)

(b) (6) Privacy for Community Health First (CHF) is particularly concerned about the potential cumulative effects or total body burden caused by exposure to a mixture of TACs in the environment. (Ex. 67, p. 9.) (b) (6) Privacy provided citations to, and excerpts from, several articles discussing potential health effects from specific TACs that will be emitted during project operations. (Ex. 68.) (b) (6) Privacy indicated that he suffers from chemical poisoning and is highly susceptible to potential xenobiotic effects from air pollution. He opposes the project because, he believes, it will increase the chemical soup in the Pittsburgh area. (CHF s 12/3 Brief.) Essentially, (b) (6) Privacy does not agree with the methodologies used by the regulatory agencies to determine potential health effects from project emissions. (*Ibid.*)

CHF's representative, Mr. MacDonald, cross-examined Staff's witness regarding the dispersion of toxins and air pollution coming out of [DEC] and dropping onto Pittsburgh. (11/18 RT 262.) Mr. Ringer reiterated that project emissions do not just go up and come straight down, rather, under worst-case weather conditions, which result in the highest impacts at any location, the maximum risk location is 5.5 miles south of the site. (11/18 RT 262:18-22.)

Worst Case Scenario failed to Examine Disparate Impact of Ammonia Slip on Formation of Secondary Particulate Matter

CRE's representative, Mr. Boyd, cross examined the applicant's witness Mr. Rubenstein on whether or not the applicant's air analysis included consideration of the production of secondary particulate matter through its formation in reaction between NOx and ammonia slip for the project. The November 18, 1999 hearing transcript is as follows:

"BY MR. BOYD Question one is in your analysis did you examine the worst-case scenario that I've cited in my testimony of the 100 percent production of secondary particulate matter? Did you use that as your worst-case scenario, or did you use as a worst-case scenario the maximum PM10 emission that's identified in the FDOC?

MR. BOYD: On page 10 I think it was. Page 10, under the top 10 stationary sources for NOx. I talk about the worst-case scenario.

MR. RUBENSTEIN: The answer to your question is no, we did not, because we could not credibly hypothesize your worst case scenario of the 100 percent reaction of ammonia slip with NOx in mornings and evenings, during periods of plant start-up and shut-down, with high relative humidity and lower ambient air temperatures going on for a year. So, no, we did not address that."

The applicant's witness MR. Rubenstein provided uncontroverted testimony that the applicant, BAAQMD, and the CEC failed to identify the production of secondary particulate matter in their analysis.

Failure to Consider Elevated Levels of Toxic Air Contaminants (TACs) Demonstrates Disparate Impacts

CRE's representative, Mr. Boyd, cross examined the applicant's witness Mr. Lowe on whether or not the applicant's air analysis included elevated TAC levels as measured by intervenor's witness Ms. Lagana. The November 18, 1999 hearing transcript is as follows:

"MR. BOYD: Did you consider the fact that -- in your analysis did you consider the fact that we have elevated levels of acetone, MTBE and toluene and carbonyl sulfide in the area? And there's a couple others that I didn't mention.

MR. LOWE: Yes, for those chemicals that are the same as what's in emissions from the facility. I noted that what's estimated to be worst-case concentration from the facility are thousands times lower than these concentrations presented in this table.

MR. BOYD: They are 1000 times lower?

MR. LOWE: Thousands of times lower."

The applicant's witness MR. Lowe provided uncontroverted testimony that the applicant, BAAQMD, and the CEC failed to identify elevated TAC levels as measured by intervenor's witness Ms. Lagana in their analysis.

Failure to Consider Estimate of Mortality Associated with Particulate Matter Demonstrates Disparate Impacts

CRE's representative, Mr. Boyd, cross examined the applicant's witness Mr. Lowe on whether or not the applicant's air analysis included an estimate of mortality associated with particulate matter in this area. The November 18, 1999 hearing transcript is as follows:

"HEARING OFFICER GEFTER: Please state your question.

MR. BOYD: My question is in my testimony on page 15 under the metropolitan statistical area identified as San Francisco/Oakland, California, the estimated annual cardiopulmonary deaths attributed to particulate air pollution is identified in the range of 715 to 1748. Do you agree with this estimate of mortality associated with particulate matter in this area?

MR. LOWE: Mortality from exposure to particulate matter was considered in the development of the national ambient air quality standard.

MR. BOYD: I guess that's his answer."

The applicant's witness MR. Lowe failed to provide uncontroverted testimony that the applicant, BAAQMD, and the CEC had identify an estimate of mortality associated with particulate matter in this area, and therefore identified this projects cumulative PM10 impacts on public health.

From CARE's written testimony on the Delta Energy Center^[17] Complainants cite the National Resources Defense Council for the effect of particulate matter on human health and mortality at the web site addendum^[x] for San Francisco/Oakland region for a range of 752 to 1,748 annual deaths attributable to particulate matter. <http://www.nrdc.org/worldview/index.html>

Failure to recognize disparate impacts on public health perpetrates discriminatory effects

Complainants cite Comments on Presiding Members Proposed Decision.^[18]

COMMISSION DISCUSSION

~~The evidence has clearly established that potential health effects from project TAC emissions are *de minimus*. This conclusion is essentially uncontroverted by credible evidence. Moreover, the~~ The health risk assessment performed by Applicant was reviewed by BAAQMD's Toxics Evaluation Section and found to comply with current accepted practice as well as District rules and procedures. (Ex. 58, p. 22.) However, we will address the concerns of Intervenor Californians for Renewable Energy (CRE) and Community Health First (CHF) since they were very involved in the evidentiary hearing on this topic.

Intervenor CRE and CHF ask the Commission to disregard the health risk assessment methodology developed and approved by local, state, and federal regulatory agencies because they believe the addition of another power plant facility in Pittsburg will degrade the environment. (b) (6) Privacy in particular, has filed several passionate pleas, demanding that the Commission halt the proceedings because of his preexisting personal disability from exposure to toxic chemicals. (b) (6) Privacy filed a demand notice to correct or cure violations of the Bagley-Keene Open Meeting Act on this matter on December 21 1999. According to (b) (6) Privacy his participation as an Intervenor in this proceeding could be viewed as David against Goliath, i.e., one citizen against the big power plant company and the governmental agencies involved in this case. Notwithstanding (b) (6) Privacy's views, the governmental entities that reviewed the data in his case are mandated to protect public health by using appropriate scientific protocol. ~~Employing that protocol establishes that DEC will not create or contribute to adverse public health impacts.~~

~~Although~~ Intervenor CRE and CHF challenged the data and the methodology employed by Applicant and Staff, ~~they did not present any convincing evidence to show that TAC emissions from the DEC project would result in adverse health effects. The Intervenor's focus on the identification and amounts of pollutants produced by the facility was not persuasive in view of the well-established scientific principle and expert testimony that dispersion patterns are more important than merely looking at the amounts of gross emissions. (Mr. Ringer's testimony at 11/18 RT 253.)~~

The Bucket Report, ~~which~~ was presented by CRE via testimony of Ms. Lagana, ~~did not provide useful evidence because it only measured TAC concentrations at a moment in time at specific locations not related to the locations of maximum impact for DEC. Moreover, the Report itself indicated that the samples could have been contaminated.~~ This ~~flawed~~ data appears in stark contrast to the years of data collected at BAAQMD's monitoring stations. ~~Thus, we were not persuaded by the results of this report.~~

Disparate Impacts on Threatened and Endangered Species are not identified

Complainants cite CARE's Comments on the Presiding Member's Proposed Decision from page 199 as follows:

(b) (6) Privacy for Intervenor Community Health First, sought to establish that cooling tower drift of constituents from the effluent used as cooling water might, when intermixed with rainwater, adversely affect biological resources. (10/3 RT 23:12-41:15.) Applicant presented the testimony of Ms. Brown who stated that USFWS conducted its endangered species analysis based upon an independent review of the biological resources information provided by the Applicant. (10/ RT 34:20-41:15; 35:18-24.) According to Ms. Brown, the results were the following: Specifically in this case, based on all of the activities, including construction of the plant, that the project was not likely to adversely affect the salt marsh harvest mouse, the California Clapper Rail, the Delta smelt and its associated critical habitat, the Sacramento spilt tail, the Lange's Metalmark butterfly, the Antioch Dunes Evening Primrose and its associated habitat, and the Contra Costa Wallflower. (10/3 RT 36:12-23.) We determined that there was likely an adverse effect to the vernal pool fairy shrimp that the Applicant would be mitigating for at a ratio of three acres for every acre lost from the construction of the plant [and that mitigation was found to be acceptable]. (10/3 RT 36:23-37:6.)

Second, (b) (6) Privacy attempted to establish the need for before and after water and soil sampling to determine the rainwater effects, intermixed with plant emissions, on biological resources. (10/3 RT 39:7-41:17; 52:19-56:19.) However, uncontroverted testimony established that such sampling is not a criteria element used by any regulatory agency to measure project impact on biological resources. (11/3 RT 57:1-19.) Exhibit 32 entered by intervenor CHF is the same as exhibit 77 a) EPA Region IX provided population density and threatened and endangered species identification geographical map of the Delta Energy Center proximity. CRE contests the failure of the biological resources analysis to address threatened and endangered species identified on said exhibit.

Complainant contends that this fails to properly identify threatened and endangered species that are adversely impacted by air emissions. Complainant cites for evidence EPA Region IX's review of the sites of threatened and endangered species and drinking water supplies in proximity of the Delta Energy Center dated September 28, 1999 figure 1. [19]

DELTA ENERGY CENTER

Latitude: 38 12.735 Longitude: 121 50 41.379, CONTRA COSTA CO., CA



PRODUCED BY: USEPA Region 9 GIS Center
DATE: September 28, 1999

SOURCES:
Population Density
PL94-171, Bureau of the Census, 1990 Census
Drinking Water Supply
California Dept. of Health, 1998
Endangered/Threatened Species
Natural Diversity Database, Cal. Dept. of Fish & Game, 1998
▲ Drinking Water Supply Wells
● Threatened and Endangered Species

Population Density per Square Mile
by Census Block

0
< 1000
1001-5000
5001-15,000
15,001-30,000
> 30,000



NOTE: Radius in Miles

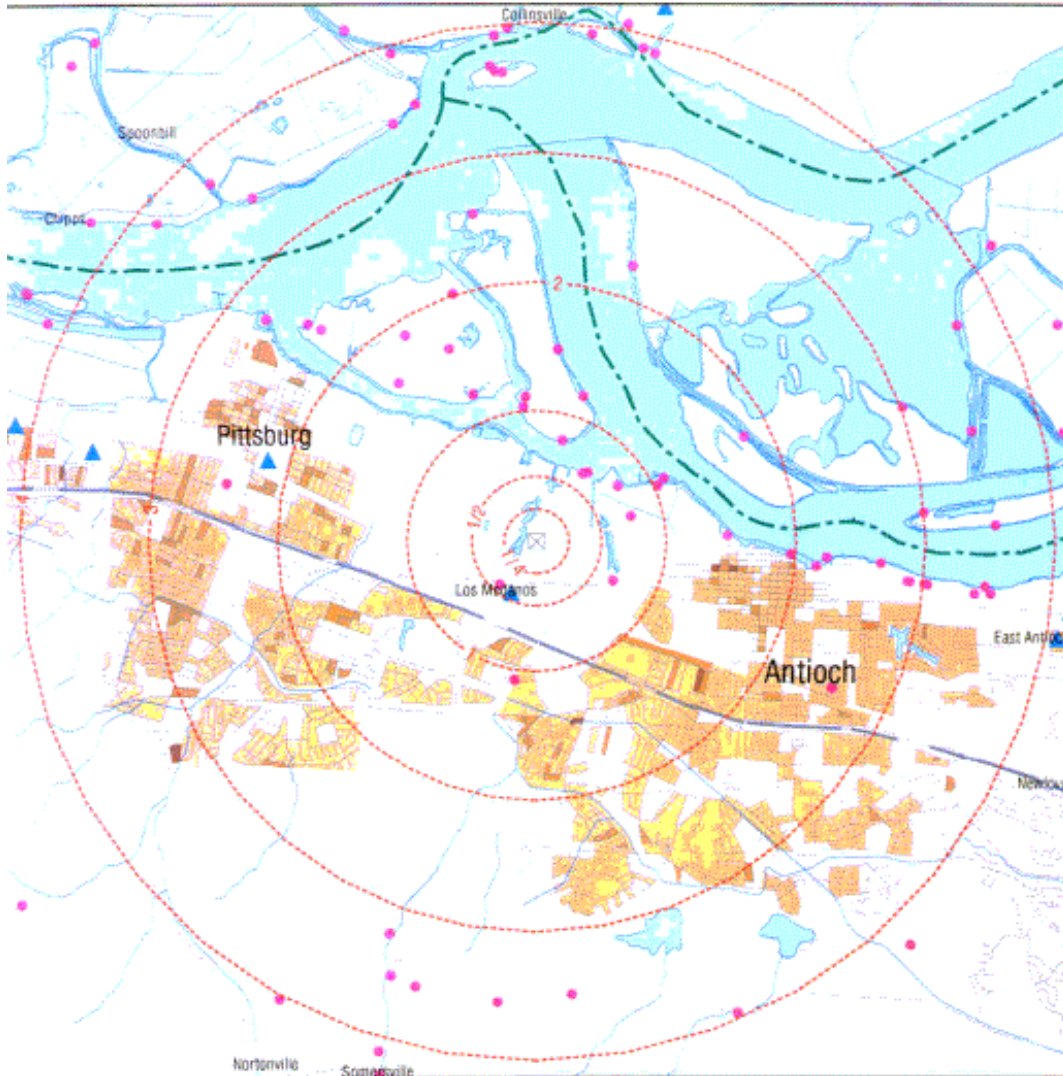


Figure 6 sites of threatened and endangered species and drinking water supplies in proximity of the Delta Energy Center

Analysis fails to comply with previous EPA Final Guidance For Incorporating Environmental Justice Concerns

Complainants cite CARE's Comments on the Presiding Member's Proposed Decision from page 312 as follows:

Environmental Justice

No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

- Title VI

Title VI itself prohibits intentional discrimination. The Supreme Court has ruled, however, that Title VI authorizes Federal agencies, including EPA, to adopt implementing regulations that prohibit discriminatory *effects*.

Frequently, discrimination results from policies and practices that are neutral on their face but have the *effect* of discriminating.² Facially-neutral policies or practices that result in discriminatory effects violate EPA's Title VI regulations unless it is shown that they are justified and that there is no less discriminatory alternative.

In July 1992, EPA published a report, entitled Reducing Risk for All Communities, which noted that minorities and low-income populations experience higher than average exposures to selected air pollutants, hazardous waste facilities, and other forms of environmental pollution. The report also documented some of the initiatives taken by US EPA program and regional offices to address communities in need. In 1993, Administrator Carol M. Browner reaffirmed the Agency's commitment to environmental justice. The U. S. Environmental Protection Agency (EPA) defines environmental justice as:

The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means no group of people, including racial, ethnic, or economic group should bear a disparate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies. (EPA, *Final Guidance for Incorporating Environmental Justice Concerns in EPA's Compliance Analyses*, April 1998.)

In 1994, president Clinton issued Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations), which directed the U. S. Environmental Protection Agency (EPA) and all other federal agencies to develop environmental justice strategies that identify and address disparately high and adverse human health or environmental effects of [their] programs, policies, and activities on minority populations and low income populations. 165 (Executive Order 12898, February 11, 1994.)

The EPA's Final Guidance For Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses of April 1998 out lines the following steps:

- *Determine the actual or possible area of impact of the project. For this site it would include a worst-case scenario of all potential pollution from the project (All controls fail or possible burning of alternate fuel. Possible gas line rupture due to rail car derailment caused by deliveries or employees having to cross heavily used railroad tracks and being hit. All this, in combination with the many LPG, chlorine and ammunition trains.) Determine worst-case scenario for Delta water pollution. For this site it would include the facility being completely flooded and all stored chemicals entering the Delta. Such a disaster could have negative effects on the Delta and SF Bay. The project is situated in an area prone to flooding. Worst-case scenario on groundwater contamination related to chemicals stored on site leaching into groundwater. Worst-case scenario sabotage.*
- *Definition of Minority: any population consisting of less than 50% Caucasian.*
- *Definition of low income: In the absence of any local definition of low income the National poverty line is to be used. The California Department of Education recognizes families that qualify for free and reduced lunch as low income.*
- *With the possible impact area established, the minority and low-income population within that area must be determined. Any population of 50% or more minority or low income qualifies, examples: the minority and low income population of a school district; the minority and low income population of a city; the minority and low income population of the downtown, uptown, westside, eastside; or by census block or tract. To keep it simple we have been defining minority populations by census blocks and low income by public schools and census blocks.*
- *An extensive EIR study of the existing, potential or foreseeable pollution that effects the EJ communities is then done. This includes the effects of lack of medical access, lead pipes and paint, disease patterns, planned new roads and industries. Whether there are subsistence farmers or gatherers*

of natural food supplies that might be affected by project. Do they depend on fishing to supplement their diet? Do they use ground water that might be contaminated by the project?

- The results are compared to a larger non-minority, non low-income community. In this case the designated community should be Marin County.*
- At this point a determination can be made. If the study finds that the environmental quality within the EJ community is worse than the designated comparable community then the applicant cannot build unless they can show there is no other alternative (cost is not a factor) or that they will completely mitigate the effects on the EJ community.*
- The applicant must conform to all other existing requirements.*

Determine the actual or possible area of impact of the project.

During cross-examination by intervenor CRE of staff's witness Mr. Franco at the Commission's air hearing of November 18, 1999 the witness identified Figure C-12 (Ex. 55) Non-zero PM10 concentrations as the impact zone of PM10 greater than 1e^{-7} g/m³ for the intervenor. Intervenor CRE also identified this as the impact zone during the formation of PM10 in reaction between the ammonia slip and NOx emissions from known EPA regulated sites. (Fig.2, & Ex. 77b) CRE contends this also serves as the impact zone for purposes of environmental justice analysis. The evidence of this from the November 18, 1999 hearing is as follows:

MR. RATLIFF: There is a nice plate for Delta, if that's your question.

MR. BOYD: Oh, okay, in the back here. Okay, I've got it.

HEARING OFFICER GEFTER: Tell us what page this is.

MR. BOYD: I'll tell you in just one second. It's on C-12. Now, this area here is, this square that I cited on -- or the rectangle on 3.2, that's the same area that you're analyzing here for PM10 emissions, right?

MR. FRANCO: Yes, that's correct.

MR. BOYD: Okay, now in your opinion would you say that the PM10 emissions are covering 90 percent of the analysis area?

MR. FRANCO: I mean all depends on what concentrations you want to select.

MR. BOYD: Well, let's say --

MR. FRANCO: No, I mean what I'm trying to say is that the scale goes from impact of zero to impact of around 2.2 micrograms per cubic meter.

MR. BOYD: Okay.

MR. FRANCO: It's a very small -- I mean there is very small quantities. Depending on how many you include you would have -- it would seem that you have a larger and larger -- I mean the more it seems that you have more, a larger impact area.

MR. BOYD: Okay. Now, the reason I'm asking this question is I'm trying to establish what the impact area is of the emissions. Okay, --

HEARING OFFICER GEFTER: Is that your question?

MR. BOYD: And so what would you say, excluding those that are zero, right, that more than 90 percent of the area has some impact from

PM10?

MR. FRANCO: I mean the numeric - this is a numerical model, a computer model that gives you -- I mean infinite -- give you as an estimate in passing infinitesimal small numbers, you know what I mean?

MR. BOYD: No, I understand.

MR. FRANCO: So, the --

MR. BOYD: But we're on a scale of zero to 2.2 even --

MR. FRANCO: So what --

MR. BOYD: So what I'm asking you is everything except zero, about more than 90 percent of this analysis then is identified in this figure as being impacted at one level or another by PM10, correct?

MR. FRANCO: That's correct, but most of the impact area is I would say concentrations lower than 1 microgram per cubic meter."

Established the minority population within the impact area

The fact there is a protected population in the zone of impact of the project that is more than 50 percent minority was established through the uncontroverted testimony of staff's witness Ms. Stennick during cross examination by Intervenor Ms. Lagana as follows:

MS. LAGANA: Ms. Stennick, could you please tell me what is the population of the -- white population of the City of Pittsburgh 1998, according to your submitted testimony in record?

MS. STENNICK: Now, you want to know the total population --

MS. LAGANA: No.

MS. STENNICK: -- of the -- the total -- white population, the non-minority population for the --

MS. LAGANA: The white population of the City of Pittsburgh. I figure everything else is nonwhite, so, what is the white in 1998?

MS. STENNICK: It's 18,730.

MS. LAGANA: No, percentage, please.

MS. STENNICK: Oh, I'm sorry, you wanted percentage?

MS. LAGANA: Please.

MS. STENNICK: 36.1 percent.

MS. LAGANA: Bingo! Doug, do you think that's a minority or majority?

MR. HARRIS: I'd like to object on the basis that the analogy she's drawing is different than the analogy we were drawing before in terms of impact area. The impact area is not bound by the geopolitical boundaries in Contra Costa County.

MS. LAGANA: Says who?

MR. HARRIS: It's bounded -- says the --

HEARING OFFICER GEFTER: Off the record.

(Off the record.)

HEARING OFFICER GEFTER: Ms. Lagana may ask the question of the witness.

MS. LAGANA: 36.1 percent white population in the City of Pittsburgh. Would you conclude that that's a minority or a majority?

MR. BUCHANAN: I'm going to have to admit to being distracted while Ms. Stennick answered her cross. If she could please repeat her statistics, please?

MS. STENNICK: I was asked what the percentage of the white population was for the City of Pittsburgh in 1998, and that was 36.1 percent.

MR. HARRIS: This question is more appropriately addressed to Mr. Crisp.

MS. LAGANA: I'm sorry, Mr. Buchanan can't tell me if that's a majority number or minority number?

MR. HARRIS: Can we go off the record again?

HEARING OFFICER GEFTER: Yes, we're going to go off the record.

(Off the record.)

HEARING OFFICER GEFTER: Mr. Crisp.

MR. CRISP: And the question is?

MS. LAGANA: Given the statistic that Ms. Stennick provided, that the white population of the City of Pittsburgh in 1998 in terms of percentage is 36.1, would you consider that number a majority or a minority?

HEARING OFFICER GEFTER: A minority of what? Of 100 percent?

MS. LAGANA: Of 100 percent.

HEARING OFFICER GEFTER: All right.

MR. CRISP: I would consider 36 percent to be a minority of 100 percent.

Projects expose Pittsburgh to Environmental impact that is high and adverse

There must be an environmental impact that is high and adverse

2. There must be an environmental impact that is high and adverse. **EPA Guidelines April 1998, 5.0 METHODS AND TOOLS FOR IDENTIFYING AND ASSESSING DISPROPORTION-ATELY HIGH AND ADVERSE EFFECTS:** "A fundamental step for incorporating environmental justice concerns into EPA NEPA compliance activities is identifying minority and/or low-income communities that may bear disparately high and adverse effects as a result of a proposed action. Once these minority and/or low-income communities are identified and located, the potential for disparately high and adverse effects to these communities must be assessed. It is important to understand where such communities are located and how the lives and livelihoods of members of these communities may be impacted by proposed and alternative actions.

Minority communities and low-income communities are likely to be dependent upon their surrounding environment (e.g., subsistence living), more susceptible to pollution and environmental degradation (e.g., reduced access to health care), and are often less mobile or transient than other populations (e.g., unable to relocate to avoid potential impacts). Each of these factors can contribute to minority and/or low-income communities bearing disparately high and adverse effects. Therefore, developing an understanding of where these communities are located and how they may be particularly impacted by government actions should be a fundamental aspect of the EA and EIS development process.”

The federal guidance documents clearly intend this to apply to both health effect and environmental effects in the broader context. (CEQ Guidance, p.20. However the federal guidance indicates that high and adverse effects are the same a significant effects in a NEPA context. (CEQ Guidance, p.20; EPA Guidance, /3.2.2.) This is essentially the same as a significant adverse impact in a CEQA context, and is indicative of the relative intensity of the impact. (Ex.51, p.4.) Intervenor CRE provided written (Ex. 62) and oral evidence at the November 18, 1999 hearing that demonstrates that this project will violate air quality standards and contribute substantially to existing air quality violations for Ozone and PM10, and that this will result in cumulative considerable increases of the criteria pollutants NOx and PM10. CRE further identified exposure of sensitive receptor to substantial pollution concentrations in the form of PM10 and TACs. The applicant’s witness MR. Rubenstein provided uncontroverted testimony that the applicant, BAAQMD, and the CEC failed to identify the production of secondary particulate matter in their analysis. The applicant’s witness MR. Lowe provided uncontroverted testimony that the applicant, BAAQMD, and the CEC failed to identify elevated TAC levels as measured by intervenor’s witness Ms. Lagana in their analysis. The applicant’s witness MR. Lowe failed to provide uncontroverted testimony that the applicant, BAAQMD, and the CEC had identify an estimate of mortality associated with particulate matter in this area, and therefore identified this projects cumulative PM10 impacts on public health. Intervenor CRE cites this as evidence of impacts with the potential adverse impacts that are high and adverse within EJ guidelines.

3.The high and adverse impact must disparately affect minority/low income persons. In effect, the environmental effect ~~(or health hazard)~~ must ~~appreciably~~ exceed ~~the risk rate or impact on the general population or other appropriate~~ comparison group. (CEQ Guidance, p. 20.) The CEQ Guidance also states that a disparately high and adverse impact can occur from cumulative or multiple adverse exposures from environmental hazards, thus emphasizing the importance of cumulative impact analyses. (*Ibid.*)

Staff’s witness, Ms. Stennick, testified that the affected population is not predominantly minority or low-income. (11/18 RT 313,316.) First, Staff defined the affected area as a five-mile radius from the project based on ~~the potential for cumulative air quality (including toxic air contaminants) impacts in the vicinity.~~ data that would best hide the fact that Pittsburg is an EJ community (*Id.* at pp.315, 338.) Using data from the 1990 census as not recommended by the Guidance, Staff found that the population living within this radius is less than 50 percent minority, and far less than 50 percent low-income. (Ex.20, pp.256-260, Exs.51, 61.)

Since the 1990 census data were challenged by ~~several Interveners~~ the applicant as outdated, Staff acquired more recent demographic projections but unclear data because it had data from outside the 5-mile radius ~~that confirmed its prior conclusions:(1) a clear majority of the population within the five mile radius (58 percent) are non-minority (Ex.61, Table 2);(2) the majority of all census tracts within (or partially within) the five-mile radius are non-minority (Ibid.); (3) the low income population in the affected area is far below 50 percent (Ex.20, Table 8); and (4) the minority/low-income population within the affected area is not meaningfully greater than that of the general population, including that of the geopolitical unit of Pittsburg (64 percent Hispanic/non-white). (Ex.61, Table3.) Ms. Lagana for Intervenor CAP-IT implied during cross-examination of Staff’s and Applicant’s~~

~~witnesses that the affected area contained within the five-mile radius was too small, and that Staff should have included the entire geopolitical unit of the City of Pittsburgh. (11/18 RT 344 et seq.) Staff disagreed because focusing on the geopolitical unit, without regard to impact, would have artificially inflated the minority population, a practice inconsistent with the federal guidance.168 (Ex.61, p.2; EPA Guidance, /2.1.1,CEQ Guidance, p.19.) In comparing the overall population within the affected area to the population in the City of Pittsburgh, however, Staff found that the demographic data do not reveal a significantly greater minority population within the city.169 (11/18 RT 315.)~~

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Other questioning by Interveners Californians for Renewable Energy (CRE) and Community Health First (CHF) ~~suggested that Staff's affected area radius was too broad, and should have been more tightly drawn.~~ (11/18 RT 341-343.) In public comment, Mr. MacDonald for Intervener CHF postulated that the EPA Guidance requires identification of populations smaller than the census tract level, and that even three individuals could constitute a pocket that defines an environmental justice issue ~~for the area that was shown to be affected in the air study for CEC. This study showed a greater area of affect than the 5-mile radius. Each and every pocket of minority and low-income communities within the affected area can be designated an EJ community.~~ (11/18 RT 369-370.)

According to Applicant's witness, Mr. Crisp, the characteristics of a population in any particular geographic or political jurisdiction have little to do with whether there's an issue of environmental justice; the data must be relevant to the project's potential impact area. (*Id.* at p.348.) An inquiry of demographics at the sub-census tract level performed by Mr. Crisp uncovered no evidence of highly concentrated protected populations at that level. (11/18 RT 342-343.) Regarding the second element of the analysis (a high and adverse impact), both Staff and Applicant determined that the project does not constitute a high and adverse environmental impact or hazard, in either a direct or cumulative context. (11/18 RT 313 [Stennick], 293,297 [Crisp].) According to Staff and Applicant, the project does not present any significant environmental risk to *any* population.170 (*Ibid.*) ~~The CEC and BAAQMD have consistently failed to recognize the significance of (CEC exhibit 77c) from EPA Region IX Environmental Justice Division and this is further evidence of the Commission's and BAAQMD's discriminatory act in failure to recognize this as significant evidence of a target minority population in the city of Pittsburgh which meets the definition by federal Environmental Justice Guidelines as disparate adverse impact's on minority or low income individuals. Intervenor CRE presented these as evidence again in petitioner's (complainant's) 11/12/1999 CEC *Written Testimony and Identification of Witnesses for a November 18, 1999 Hearing on the Delta Energy Center (98-AFC-3) Socioeconomic, air quality, and public health*, and again in petitioner's (complainant's) testimony at it's November 18, 1999 Hearing on the Delta Energy Center (98-AFC-3) Socioeconomic, air quality, and public health.~~

As discussed in the **Air Quality** section, the project emits PM10 and ozone precursors that could potentially create significant cumulative impacts because the air district is not in attainment for the federal ozone or state 24 hour PM10 standards. ~~Staff performed a worst case cumulative impacts analysis for PM10 and NO2, including the combined worst case emissions of DEC, the PDEF project, and the existing operation of the two Southern power plants. (Ex.55.) The modeling results for DEC indicated that for both PM10 and NO2, the potential impacts were well below state and federal air quality standards. (Ex.55, pp. C- 10,C-11, C-12.) Staff notes that these insignificant impacts were found to occur immediately adjacent to the DEC site and not in residential areas. (Ibid.) Staff, therefore, concluded that the maximum PM10 concentrations from the four modeled facilities do not overlap and there are no significant cumulative impacts from criteria pollutants. (11/18 RT 132-140.)~~

~~Staff asserts this conclusion is supported by project compliance with BAAQMD's regulatory program requiring emissions offsets that, as a matter of law, will reduce the project's potential contribution to cumulative effects to~~

~~levels of insignificance under CEQA.171 (Staff 12/3 Brief on Socioeconomic et al.) Regarding public health (i.e., emissions of toxic air contaminants, or TACs) standard risk assessments were performed by Applicant, Staff, and BAAQMD. The calculations indicated that the potential risk for cancer or other health effects would be *de minimis*, not cumulatively considerable, and will not contribute a significant cumulative impact. (See **Public Health** section of this Decision.) Regarding the third element of the environmental justice analysis (whether project effects fall disparately on a minority/low-income population), Staff and Applicant determined there is no disparate impact on minority/low-income populations.172 (11/18 RT 313 [Stennick]; 139 [Crisp].) According to Applicant, since the minority/low-income population in the affected area is less than 50 percent and the project will not result in adverse impacts to public health or the environment; there are no disparate impacts to evaluate. (Ex 51, p.10.)~~

Intent to discriminate by CEC, BAAQMD, and applicant shows in inadequacy of CEC EJ analysis

Intervenor CRE submits the following document in its entirety as a rebuttal to CEC Staff's, Applicant's and BAAQMD's Environmental Justice testimony: **U.S. Environmental Protection Agency's Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses**, April 1998. If not already part of the record it is admissible under Commission's regulations (Cal. Code of Regs. tit. 20, 1212.) "Hearings need not be conducted according to technical rules relating to evidence and witnesses." This code was quoted by applicant in a letter of Opposition to Intervenor (b) (6) Privacy Petition for Disqualification of Testimony From DEC.

In addition, note the following Rebuttal to: **SUPPLEMENTAL ENVIRONMENTAL JUSTICE DATA AND ANALYSIS Report for the Delta Energy Center Power Plant Project (98-AFC-3) dated Nov 3, 1999.** Testimony of Amanda Stennick.

- Testimony of Amanda Stennick: page 1, paragraph 2, basically states staff chose 5-mile radius to determine presence of minorities. In Stennick's own supplemental testimony (page 2 paragraph 1 line 6) she quotes EPA's Guidance to define the term affected area "as that area which the proposed project will or *may* (my emphasis) have an effect on." Testimony of Guido Franco A Modeling Assessment of Cumulative Air Quality Impacts of the Pittsburg District Energy Facility and Other Incremental Sources dated May 3, 1999 (sponsored by Staff, EXHIBIT 55). Mr. Guido Franco confirms there is no difference in air modeling between 98-AFC-1 and 98-AFC-3. He re-submitted the air study for 98-AFC-1 for the air study of 98-AFC-3. Since the affected area is determined by this modeling how does staff explain affected area for 98-AFC-1 as 1.5 miles and the affected area of 98-AFC-3 as 5 miles? The modeling maps show Bay Point, Pittsburg, Antioch and Oakley as the most affected area. Reference pages 5-3, 5-4, 5-5, 5-6, 5-7, 5-8, 5-9, 5-10 of A Modeling Assessment of Cumulative Air Quality Impacts of the Pittsburg District Energy Facility and Other Incremental Sources, May 3, 1999 (prepared for California Energy Commission, Final Written Testimony, Docket #98-AFC- I, Contract Number 700-98-006) by Joseph S. Scire, Certified Consulting Meteorologist.

Testimony of Amanda Stennick continues on page 2, paragraph 1, and line 3: "A minority population exists if the minority population percentage of the affected area is fifty percent or greater than the affected area's general population. The Guidance does not define the term "affected area", however it states that the analyst should interpret the term "as that area which the proposed project will or may have an effect on." This statement is taken completely out of context and does not imply that the study is merely based on total minorities to non-minorities but on pockets of minorities and low-income that is made up of more than 50% with in the affected area. EPA's Compliance Guidance April 1998, 1.2 Principles/Philosophy of this Guidance, paragraph 4, page 7. "The sensitivity to environmental justice concerns should sharpen the focus of the analysis. While the analytical tools to be used are similar, the analysis should focus both on the overall affected area population and

on smaller areas and/or communities within the affected area”. Paragraph 7, page 7 of EPA’s Guidance: “Environmental justice concerns may lead to more focused analyses, identifying significant effects that may otherwise have been diluted by examination of a larger population or area. Environmental justice concerns should always trigger the serious evaluation of alternatives as well as mitigation options.” **2.1.1 Minority and Minority Population**, paragraph 2, page 11 of EPA’s Guidance. “The fact that census data can only be disaggregated to certain prescribed levels (e.g., census tracts, census blocks) suggests that pockets of minority or low-income communities, including those that may be experiencing disparately high and adverse effects, may be missed in a traditional census tract-based analysis (my emphasis). Additional caution is called for in using census data due to the possibility of distortion of population breakdowns, particularly in areas of dense Hispanic or Native American populations. In addition to identifying the proportion of the population of individual census tracts that are composed of minority individuals, analysts should attempt to identify whether high concentration “pockets” of minority populations are evidenced in specific geographic areas.” Paragraph 4, page 11 of EPA’s Guidance. “A factor that should be considered in assessing the presence of a minority community is that a minority group comprising a relatively small percentage of the total population surrounding the project may experience a disparately high and adverse effect. This can result due to the group's use of, or dependence on, potentially affected natural resources, or due to the group's daily or cumulative exposure to environmental pollutants as a result of their close proximity to the source. The data may show that a distinct minority population may be below the thresholds defined in the IWG key terms guidance on minority population. However, as a result of particular cultural practices, that population may experience disparately high and adverse effects. For example, the construction of a new treatment plant that will discharge to a river or stream used by subsistence anglers may affect that portion of the total population. Also, potential effects to on- or off-reservation tribal resources (e.g., treaty-protected resources, cultural resources and/or sacred sites) may disparately affect the local Native American community and implicate the federal trust responsibility to tribes.” Even if information is broken down by census tract it is clear there are at least submitted by CH2Mhill, Nov 8, 1999.

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- Testimony for Calpine/Bechtel POLICY AND REGULATORY CONTEXT, Page 2, paragraph 2: “The Federal initiative is based primarily on Title VI of the Civil Rights Act of 1964. California has no equivalent of Title VI and, consequently, has developed no statewide environmental justice policy. While the California Environmental Quality Act (CEQA) requires a review of environmental impacts, there is no requirement to further determine the extent to which those impacts are distributed on minority or low-income segments of the affected population. For this reason, although the CEC must comply with the non-discrimination provisions of the Civil Rights Act, there is no requirement for a state agency or commission to conduct an Environmental Justice analysis.” Rebuttal: Staff Report for 98-AFC-3, page 277, paragraph 3 SOCIOECONOMIC RESOURCES Amanda Stennick, ENVIRON-MENTAL JUSTICE: “President Clinton's Executive Order 12898, ‘Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations’ was signed on February 11, 1994. The order required the US Environmental Protection Agency (USEPA) and all other federal agencies to develop environmental justice strategies. The USEPA subsequently issued Guidelines that require all federal agencies and state agencies receiving federal funds (my emphasis) to develop strategies to address this problem. The agencies are required to identify and address disparately high and adverse human health or environmental effects of their programs, policies and activities on minority populations and low-income populations.”

- Testimony for Calpine/Bechtel, ENVIRONMENTAL JUSTICE page 2, paragraph 4: “Notwithstanding the requirement of BAAQMD to comply with Title VI and with EPA’s implementing regulations, there is no requirement to address Executive Order 12898, Environmental Justice. The executive Order applies to federal

only.” Rebuttal: Staff Report for 98-AFC-3, page 277, SOCIOECONOMIC RESOURCES, Amanda Stennick, ENVIRONMENTAL JUSTICE: “President Clinton's Executive Order 12898, 'Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations' was signed on February 11, 1994. The order required the US Environmental Protection Agency (USEPA) and all other federal agencies to develop environmental justice strategies. The USEPA subsequently issued Guidelines that require all federal agencies and state agencies receiving federal funds, to develop strategies to address this problem. The agencies are required to identify and address disparately high and adverse human health or environmental effects of their programs, policies and activities on minority populations and low-income populations.”

- Testimony for Calpine/Bechtel, ENVIRONMENTAL JUSTICE, page 3, paragraph 5: 1. There must be a minority or low-income population in the impact zone Presidential Executive Order 12898 refers to populations of low-income and minority people. It is important to differentiate a population from a community, neighborhood, or other small geographic area. Focusing solely on neighborhoods, for example, would ignore impacts on members of a low-income population that do not live in a neighborhood that would be classified as "low-income." While some agencies' guidance, and many EISs, uses the terms *population*, *community*, and *neighborhood* interchangeably, the only term used in the Presidential Executive Order is population. As a result, its applicability encompasses individuals who may be geographically dispersed. In determining whether an impact falls disparately on minority or low-income populations, this testimony also considers the entire low-income and minority population in the affected area so as not to exclude those who do not live in a geographic area that might be classified as "minority" or "low-income." Rebuttal: EPA Guidance April 1998, 1.2 Principles/Philosophy of this Guidance, paragraph 4, page 7, “The sensitivity to environmental justice concerns should sharpen the focus of the analysis. While the analytical tools to be used are similar, the analysis should focus both on the overall affected area and population and on smaller areas and/or communities within the affected area.” Paragraph 7, page 7, “Environmental justice concerns may lead to more focused analyses, identifying significant effects that may otherwise have been diluted by examination of a larger population or area. Environmental justice concerns should always trigger the serious evaluation of alternatives as well as mitigation options.” **2.1.1 Minority and Minority Population** paragraph 2, page 11, “The fact that census data can only be disaggregated to certain prescribed levels (*e.g.*, census tracts, census blocks) suggests that pockets of minority or low-income communities, including those that may be experiencing disparately high and adverse effects, may be missed in a traditional census tract-based analysis. Additional caution is called for in using census data due to the possibility of distortion of population breakdowns, particularly in areas of dense Hispanic or Native American populations. In addition to identifying the proportion of the population of individual census tracts that are composed of minority individuals, analysts should attempt to identify whether high concentration "pockets" of minority populations are evidenced in specific geographic areas.” Paragraph 4, page 11, “A factor that should be considered in assessing the presence of a minority community is that a minority group comprising a relatively small percentage of the total population surrounding the project may experience a disparately high and adverse effect. This can result due to the group's use of, or dependence on, potentially affected natural resources, or due to the group's daily or cumulative exposure to environmental pollutants as a result of their close proximity to the source. The data may show that a distinct minority population may be below the thresholds defined in the IWG key terms guidance on minority population. However, as a result of particular cultural practices, that population may experience disparately high and adverse effects. For example, the construction of a new treatment plant that will discharge to a river or stream used by subsistence anglers may affect that portion of the total population. Also, potential effects to on- or off-reservation tribal resources (*e.g.*, treaty-protected resources, cultural resources and/or sacred sites) may disparately affect the local Native American community and implicate the federal trust responsibility to tribes.” Page 38, last paragraph, “Minority and/or low-income communities are often concentrated in small geographical areas within the larger geographically and/or economically defined population center targeted for study. Minority communities and low-income communities

may comprise a very small percentage of the total population and/or geographical area.”

- Testimony for Calpine/Bechtel, page 4, paragraph 2, “2. A high and adverse impact must exist. In accordance with the spirit of the Executive Order and its implementation through the National Environmental Policy Act (the federal equivalent of CEQA), a high and adverse impact is considered in this testimony to generally be synonymous with *significant* adverse human health or environmental effects. The CEQ (1997) Guidance indicates that, when determining whether effects are disparately high and adverse, agencies are to consider whether the risks or rates of impact "are significant (as employed by NEPA) or above generally accepted norms." Under NEPA and CEQA the term "significant" has special meaning, considering both the context in which the impact would occur and the relative intensity of the impact.” Rebuttal: EPA Guidelines April 1998, **5.0 METHODS AND TOOLS FOR IDENTIFYING AND ASSESSING DISPARATELY HIGH AND ADVERSE EFFECTS**: “A fundamental step for incorporating environmental justice concerns into EPA NEPA compliance activities is identifying minority and/or low-income communities that may bear disparately high and adverse effects as a result of a proposed action. Once these minority and/or low-income communities are identified and located, the potential for disparately high and adverse effects to these communities must be assessed. It is important to understand where such communities are located and how the lives and livelihoods of members of these communities may be impacted by proposed and alternative actions. Minority communities and low-income communities are likely to be dependent upon their surrounding environment (*e.g.*, subsistence living), more susceptible to pollution and environmental degradation (*e.g.*, reduced access to health care), and are often less mobile or transient than other populations (*e.g.*, unable to relocate to avoid potential impacts). Each of these factors can contribute to minority and/or low-income communities bearing disparately high and adverse effects. Therefore, developing an understanding of where these communities are located and how they may be particularly impacted by government actions should be a fundamental aspect of the EA and EIS development process.”

- Testimony for Calpine/Bechtel, page 7, last paragraph **Sources of Demographic Data**: “First, school enrollment data for the 1998-99 school year were collected for the Pittsburg and Antioch Unified School Districts. The school enrollment data cannot be used. To begin, these limited school data sets are not usable for the environmental justice analysis by themselves because they encompass only a fraction of the total population (*i.e.*, school-age children who attend public schools). Further, public school enrollment data cannot be considered a statistical sample of the total, since they are neither random nor representative, and encompass only about one-third of the total population. Public school data reveal nothing about families and households without children or those with children in private schools. And they reveal nothing about the low-income populations (since eligibility for the free or reduced-price lunch program is based on incomes higher than poverty, and not all eligible students participate in the program). Finally, they are compiled at such a high level of aggregation (*i.e.*, by school) that they cannot be used to indicate demographic characteristics of the DEC impact zone.” Rebuttal: The problem of childhood hunger is not simply a moral issue. Scientific evidence suggests that children who are hungry are less likely to become productive citizens. A significant body of medical data provides compelling evidence that hungry children, even those who experience only mild malnutrition during the critical stages of their development, may suffer negative life-altering consequences. Children who are denied an adequate diet may suffer abnormal brain, cognitive, and psychological development, which, if not corrected, can be irreparable. Hungry children have a harder time learning in school; they have shorter attention spans, and suffer more absences due to illness. A child who is unequipped to learn because of hunger and poverty is more likely to be poor as an adult. Over 8 million children live in working poor families. Free and reduced lunch programs are not a gift of public funds but are based on the ability of families to properly feed their children. It is more than appropriate to use these program guidelines in determining low-income families. **EPA Guidelines** April 1998, **2.1.2 Low-Income Population**, page 12, paragraph 1, line 4: “In conjunction with census data, the EPA NEPA

analyst should also consider state and regional low-income and poverty definitions as appropriate. In identifying low-income populations, agencies may consider as a community a group of individuals living in geographic proximity to one another or set of individuals (such as migrant workers or Native Americans) where either type of group experiences common conditions of environmental exposure.”

- Testimony for Calpine/Bechtel, page 6, last paragraph line 3 “As set forth immediately above, the California Energy Commission and Calpine/ Bechtel have satisfied the federal requirements related to environmental justice by performing the analysis using the best available data (my emphasis), the 1990 Census data. Page 10, last paragraph, “Further, for this testimony, population information was obtained from a variety of sources. Data were used from the smallest level of aggregation available in order to detect any pockets of minority or low-income population that might be obscured by averaging over large areas.” Rebuttal: SUPPLEMENTAL ENVIRONMENT JUSTICE DATA AND ANALYSIS (Docketed Nov.03, 1999) pages 3, 4, 5, maps and tables showing increase in minority population; **EPA Minority and Low-Income Maps** by census block 1990 census. EPA Minority and low-income maps clearly refute Calpine/Bechtel’s claims that they used “smallest level of aggregation available”. Calpine/Bechtel acknowledges that Census block information is available but then discounts its importance with a statement that we believe can only be interpreted at best, as a lack of comprehension of EPA guidelines. Page 8, paragraph 2, line 6 of applicant’s testimony: “However, they are only available at the Census block group level. This level of aggregation in the Pittsburg-Antioch area homogenizes results over very large areas; revealing little about the specific impact zone around the DEC facility.”

- In addition, note the following rebuttal to: **Testimony for AFC of DEC**; CH2Mhill, September 1999; Richard C. Humm, Jr., Senior Environmental Planner:

- Testimony of Mr. Humm: page 8, Section 3, Summary A. line 10, “Sensitive Receptors, including schools, hospitals, emergency response facilities, long-term care facilities and day care facilities...are discussed in further detail as part of the analysis of hazardous materials handling.” Page 18, line 1, “There are sensitive receptor facilities (such as schools, daycare facilities, convalescent centers, or hospitals) near the project site.” It is clear that sensitive receptors are near the project but no EJ study was done to determine minorities and low-income population at this site. Page 19, paragraph 3, confirms that Calpine has an existing co-generation plant. If they already have a plant that is providing Dow Chemical with electricity and steam, why do they need another one? Since they don't need additional capacity for Dow, have they considered an alternative site for the plant as per EJ guidelines? Page 18, Section C, Operational Impacts, does not identify what materials will be coming in by rail. There is no information on the possibility of train derailment, crash, tanker car rupture or worst-case scenario. Example: A rail car or tanker truck carrying LPG or hydrochloric acid could be damaged and spill contents (hit by truck or train bringing in supplies to plant). Consider also that munitions cars from Concord Naval Weapons Station, which travel tracks adjacent to plants, could be involved.

In a letter from Dennis Jang of BAAQMD to Jim MacDonald dated Oct. 27, 1999. Mr. Jang confirms that 1. “Monitoring data must be representative of the ambient air quality of the proposed facility impact area.” 2. “... Three years of data is considered to be representative of long-term ambient conditions,” 3. “... There is not sufficient time for the District to collect significant monitoring data...” and 4. “...BAAQMD did not conduct a formal analysis of the potential environmental justice ramifications of the Delta Energy Center...” Clearly BAAQMD did none of the Environmental Justice studies required of it.

- In reviewing the qualifications of CEC’s staff, applicant’s witnesses and BAAQMD’s staff I can not find where they have shown the technical ability and knowledge to be certified by the state of California pursuant to part 5 of Division 26 of The Health and Safety Code.

- Applicant, BAAQMD and CEC have failed to identify “sensitive receptors” and perform analysis specific to these sites. List of specific sensitive receptors: nearest residents approx. 3/4 mile. Within approx. 1.5 miles: El Pueblo HUD housing, Martin Luther King elem. used as a preschool and head start program for low income residents, county medical clinic, Los Medanos College, Bell-Clark Babe Ruth Baseball Fields Antioch, Turner School Ant., Kaiser Med. Cen. Ant. Within approx. 2 miles: Pittsburg High School, Adult ed., Stoneman elem., Central Jr. High, Pitts. Sr. Center, Los Medanos Sr. Center, Contra Costa fairgrounds, Prospects High Ant., Alt. Ed. Center & Ant. Adult School. Rec. Cen.& Senior Center, Ant. High School., Ant. Jr. high School., Fremont School., Live Oak HS, Kimball School., Marsh School., Mission School., Sutter School., Delta Memorial. Hosp. Within approx. 3 miles: Pitts. Alt. Ed., Parkside School. Los Medanos School., Heights School., Hillview Jr. School., Highland School., Foothill School.

Applicant, BAAQMD and CEC have failed to provide relevant ambient criteria and toxic statistics for “sensitive receptors”. *Toxic Air Contaminant Control Program*, Bay Area Air Quality Management District [937 Ellis Street; SF, CA 94109]. Annual Report 1997, Volume I, Page 10, AIR TOXICS AMBIENT MONITORING NETWORK states “Monitoring is considered the definitive method for establishing ambient pollutant concentrations. One limitation of air monitoring is that it is spatially limited to specific monitoring locations.” The Pittsburg monitor is west of the above named “sensitive receptors”, the Concord monitor is so far Southwest (approx.10 miles) of Pittsburg that it is not even in the air stream coming from or going to Pittsburg, and the Bethel Island monitor is too far East (approx. 11.5 miles) and readings diluted by a secondary air mass from the North to be of any statistical use.

- Applicant, BAAQMD and CEC have failed to identify potential foreseeable sources of pollution. Truck and car traffic are on the rise with new home and mall construction, City of Pittsburg is planning to become a Port Authority, which will result in higher truck, and marine caused air pollution. With all of the power plants in Pittsburg, the city is planning on capitalizing on its Enterprise Zone by enticing big polluting industry with low electric bills. Air Liquide industrial gas manufacturing plant has already filed its Negative Declaration with Pittsburg. With deregulation of the electric industry, it is foreseeable that the two, already existing, gas-fired power plants and the 3 GWF petroleum coke-fired power plants will substantially increase their output and pollution. It is also foreseeable that a worse case scenario should include trucks carrying hazardous material may be hit when crossing nearby tracks and/or hazardous material or munitions rail car derailment. This type of analysis is crucial in determining Environmental Justice issues.²² minority and low-income populations within a 5-mile radius of the project (see EPA’s Minority Distribution and Density maps). Even by using CEC’s 1999 Census tract map a clear minority population is identified.

- Testimony of Amanda Stennick continues on page 2, paragraph 2. “The Guidance states that a demographic comparison to the next larger geographic area or political jurisdiction should also be presented to place population characteristics in context when determining whether impacts fall disparately on minority and low-income populations. Staff used the City of Pittsburg (the political jurisdiction within which the DEC would be constructed) as the appropriate unit of geographic analysis. Comparing the affected area, which has a total minority population of 42%, to the City of Pittsburg, which has a total minority population of 63.9%, indicates that the affected area does not constitute a minority population that is disparately affected by the DEC. Rebuttal: 99% of Pittsburg is within the 5-mile radius with an approximate population of 55,000. On page 4, Testimony of Amanda Stennick, her submitted table for 1999 shows total population of affected area as 148,052. Pittsburg is within the 5-mile radius, with a smaller population. Methodology used by CEC’s staff is questionable since the next larger political jurisdiction was not used.

CEC discriminated against African Americans persons in the Evidentiary hearing process

The CEC discriminated against African Americans persons by deny (b) (6) Privacy and opportunity to act as an expert witness on Environmental Justice at its November 18, 1999 evidentiary hearing. CARE strongly objected for the record at the CEC November 18, 1999 evidentiary hearing against exclusion of (b) (6) Privacy as a witness on Environmental Justice.

(b) (6) Privacy presented comment indicating that he was concerned about potential disparate impact on minority communities from project-related activities. He wanted assurance that the project would not cause cancer or other ill effects. (11/18 RT 352 ET seq.) Intervenor CRE was further denied due process by the Hearing Officer in the denial of intervenor's law full written notice of witnesses for socio-economics in intervenor's written testimony of November 12, 1999. The Hearing Officer scheduled the hearing on socio-economics (environmental justice) for after midnight on November 18, 1999 despite being noticed as the first item on the Commission's version of the Internet agenda. The one witness of the intervenor remaining after midnight, (b) (6) Privacy, was forced by the Hearing Officer to speak as a member of the public. Intervenor CRE additionally provided a copy of (b) (6) Privacy resume in advance of the meeting. His experience as an investigator for the EEOC alone qualifies him as an expert on this matter. Intervenor CRE provides this transcript as evidentiary in the Hearing Officer's prejudice in favor of the applicant and against the petitioner (complainant) in this matter.

CEC discriminated against disabled persons in the evidentiary hearing process

The CEC discriminated against disabled persons in failing to provide appropriate accommodations for (b) (6) Privacy at its November 18, 1999 evidentiary hearing.

Intervenors CRE and CHF ask the Commission to disregard the health risk assessment methodology developed and approved by local, state, and federal regulatory agencies because they believe the addition of another power plant facility in Pittsburg will degrade the environment. (b) (6) Privacy in particular, has filed several passionate pleas, demanding that the Commission halt the proceedings because of his preexisting personal disability from exposure to toxic chemicals. (b) (6) Privacy filed a demand notice to correct or cure violations of the Bagley-Keene Open Meeting Act on this matter on December 21 1999.^[20] According to (b) (6) Privacy his participation as an Intervenor in this proceeding could be viewed as David against Goliath, i.e., one citizen against the big power plant company and the governmental agencies involved in this case. Notwithstanding (b) (6) Privacy views, the governmental entities that reviewed the data in his case are mandated to protect public health by using appropriate scientific protocol.

Disparate Impacts on Low Income Children Demonstrated through demographics, testimony, and action of the Pittsburg Unified School District

Complainants cite Figure 5 Low-Income Children in Contra Costa County for evidence of the existence of target low-income children in impact area. Complainants cite evidence of PUSD resolution 99-32^[21] (Figure 7). Complainants further cite testimony of trustee Jim MacDonald.

"As further evidence of this project's violation of Title VI in the Pittsburg community, petitioner (complainant) cites the resolution 99-32 (October 13, 1999) from the Trustees of the Pittsburg Unified School District requesting the EPA declare Pittsburg an Environmental Justice Area. Petitioner (complainant) contends that the proposed mitigation measures violate Title VI in that they unfairly impact low income and minority communities affected by the failure of the applicant to eliminate unhealthful air emissions in an area of EPA non-attainment" for Ozone.

RESOLUTION 99-32

Requesting the EPA Declare Pittsburg an Environmental Justice Community

The TRUSTEES of the PITTSBURG UNIFIED SCHOOL DISTRICT are concerned over the ever-increasing pollution levels to which our students and staff are exposed. Recent medical evidence indicates that pollution has a much higher negative effect on the health and welfare of the community than previously suspected. EPA studies confirm that minority and low-income populations carry an unjust burden of health risks from pollution. These health effects put additional strain on population groups already disenfranchised, resulting in a poor learning environment at home and reduced learning capacity at school due to chronic sickness and absence from school.

Hospitalization due to asthma attacks is alarmingly high in Contra Costa County. Between January and June, 1999, 71 children were hospitalized at the San Pablo Emergency Room and 68 at the Pinole Emergency Room. Rate for hospitalization due to asthma in the 94520 zip code area in Concord (north side) is 214 per 100,000. In 1996, 656 Californians died of asthma. Possibly due to socio-economic and environmental reasons, African-American children under age 15 are 4.5 times more likely to have an asthma attack than Caucasians (taken from Contra Costa Times article on Regional Asthma Management and Prevention Initiative Report). Since Pittsburg Unified School District is over 60% minority and 67% free or reduced lunch, this puts a tremendous burden on the school district.

Because of the ever-increasing relocation of smokestack industries to the Pittsburg area, and the already existing environmental health risks, the TRUSTEES of the PITTSBURG UNIFIED SCHOOL DISTRICT, acting as duly elected representatives of the people, ask the EPA to declare Pittsburg an Environmental Justice Community and begin appropriate studies of the environmental hazards our students face.

YES:
NOES:
ABSENT:

Robert L. Superintendent
Superintendent/Secretary to the
PITTSBURG BOARD OF EDUCATION

Adopted: 4 - 0 - 1

Figure 7 Resolution 99-32 of the Pittsburg Unified School District.

The Pittsburg Unified School District received no direct mitigation for disparate impacts from these projects. The Commission's PMPD on the 98-AFC-3 states for the school district,

"3. Potential Impacts

a. Housing and Schools

Applicant anticipates that most of the construction labor force will commute one hour or less each way to the job site and will not, therefore, adversely impact housing or schools. 160 (Ex. 50 at p. 3; 11/18 RT 284.) DEC will pay a one-time developer fee of \$5, 890 to the Pittsburg Unified School District. 161 In addition, Staff estimated that \$1.75 to \$2.25 million from annual property taxes paid by DEC would go to school districts in Contra Costa County. 162 (*Ibid.*)"

The Pittsburg Unified School District is an Average Daily Attendance District (ADA) as opposed to a Basic Aid school District, which would receive funding from the property tax role for the County of Contra Costa. As such the District's funding does not come from property taxes and therefore the District receives no net benefit from the projects. Additionally both projects are within a City of Pittsburg's redevelopment zone. Therefore any increase in the property tax increment will go to the city's redevelopment agency in any case.

Complainants cite Pittsburg Unified School District Trustee Jim MacDonald from CARE's Comments on the Presiding Member's Proposed Decision. [\[22\]](#)

"5.Public Comment

Mr. MacDonald, who represented Intervenor CHF, presented testimony that he is a Trustee of the Pittsburg Unified School District and that he voted for Resolution 99-32, adopted by the School District on October 13, 1999. (Ex.69.) This Resolution asks the EPA to declare Pittsburg an Environmental Justice Community. Mr. MacDonald also presented public comment indicating his view that BAAQMD's programs are unfair to minorities and low-income populations. (11/18 RT 367 ET seq.) As mentioned previously, Mr. MacDonald argued that the census tract data should have been disaggregated to smaller units to better identify the affected minority populations [within the affected area as shown in air study](#). (*Id.* at p.369.)

Complainant Jim MacDonald spoke with Mr. Running Grass of EPA Region IX EJ division on possible mitigation for disparate impacts on the District. The issues discussed included: providing school districts authority to perform EJ analysis on these projects at the applicants expense, providing the District no cost electrical service, and provide the District electrical school buses. Complainants cite that these mitigations are real, benefit local air quality, and sustain continuous improvements in regional environmental conditions. Complainants suggest further District mitigation in the form of an applicant funded long-term health assessment on project impacts on the Pittsburg Unified School District's children.

The Remedy Sought

The remedy sought by CARE is as follows. 1) The California Energy Commission's CEC's certified environmental program be revoked by the California Resources Agency until the CEC completes a program EIR/EIS on such program which includes federal mandates for Environmental Justice Analysis. 2) EPA Region IX revoke BAAQMD's authority to issue PSD permits until such time as it completes a program EIR (CEQA) and EIS (NEPA) analysis on its permitting program which includes federal mandates for Environmental Justice Analysis in such projects. 3) The Commission is required to deny the Delta Energy Center (on a vote for reconsideration) on Environmental Justice grounds due to the disparate impact on the minority and low-income community of Pittsburg California. 4) That a CEQA NEPA and EJ compliant EIR /EIS be completed on any current or future energy projects within Contra Costa County.

Conclusion

Low-income children and minority populations in the community of Pittsburg Contra Costa County California experience disparate impacts from criteria air pollutants in comparison to surrounding counties. These two projects will further inflict disparate impacts from criteria pollutants in the form of particulate matter, NOx, and Toxic Air Contaminants (TACs). Contra Costa County's low income and minority populations already suffer elevated levels of occurrences of asthma, and breast cancer, along with increased human mortality attributable to particulate matter exposure. The community of Pittsburg's low-income children and minority populations experience these effects disparately in comparison to non-minority non-low income populations within Contra Costa County and in the surrounding counties.

No mitigation for impacts from these projects will be received by the Pittsburg Unified School District to mitigate the effects that school children, predominantly low income and minority, will experience as a result of these projects. The remedy we seek is to prohibit the development of these projects without local mitigation and local emission offsets. We seek the recognition by the CEC, BAAQMD, and CARB of their responsibility to identify disparately impacted low income and minority populations like Pittsburg's, and provide for appropriate mitigation and alternatives pursuant to Federal law, and we seek the requirement that this be made part of their

certified regulatory programs.

(b) (6) Privacy

Michael E. Boyd

James B. MacDonald

(b) (6) Privacy

4-14-00

Jim MacDonald-trustee 4-14-00

President-CARE

Community Health First Pittsburg Unified School District

[1] Complainants acknowledge Caroline Ferrell of the Center for Race, Poverty, and the Environment – Delano California, for review and comments of the draft complaint.

[2] *Rebuttal to Senior Staff Counsel Dick Ratliff's Brief on the Delta Energy Center Project Alternatives* 11/04/1999
<http://www.calfree.com/Rebuttal.html>

[3] *Rebuttal to Senior Staff Counsel Dick Ratliff's Brief on the Delta Energy Center Project Alternatives* 11/04/1999
<http://www.calfree.com/Rebuttal.html>

[4] CARB California Emissions Inventory Data <http://www.arb.ca.gov/EMISINV/maps/statemap/cntymap.htm>

[5] *Rebuttal to Senior Staff Counsel Dick Ratliff's Brief on the Delta Energy Center Project Alternatives* 11/04/1999
<http://www.calfree.com/Rebuttal.html>

[6] The Northern California Council for the Community (NCCC), *Contra Costa County United Way/Hospital Council Collaborative Community Assessment* http://www.ncccsf.org/contra_costa_report/ccost_9of39.pdf

[7] CARB *The 1999 California Air Quality and Emissions Almanac Chapter 5: Emissions and Air Quality Tables for County Portions of Air Basins* http://www.arb.ca.gov/aqd/almanac/pdf/tbl5_24.pdf

[8] *Comments on Presiding Member's Proposed Decision* filed by Michael E. Boyd, Californians for Renewable Energy, Inc., January 26, 2000. (Adobe Acrobat PDF file, 52 pages, 578 kilobytes).

[9] *Comments on Presiding Member's Proposed Decision* filed by Michael E. Boyd, Californians for Renewable Energy, Inc., January 26, 2000. (Adobe Acrobat PDF file, 52 pages, 578 kilobytes).

[10] November 18, 1999 -- Transcript of CEC hearing held in Antioch, California. (404 pages, 757 kilobytes)

[11] *Comments on Presiding Member's Proposed Decision* filed by Michael E. Boyd, Californians for Renewable Energy, Inc., January 26, 2000. (Adobe Acrobat PDF file, 52 pages, 578 kilobytes).

[12] *Written Testimony and Identification of Witnesses for a November 18, 1999 Hearing on the Delta Energy Center (98-AFC-3) Socioeconomic, air quality, and public health* http://www.calfree.com/Delta_Test.html

[13] *Comments on Presiding Member's Proposed Decision* filed by Michael E. Boyd, Californians for Renewable Energy, Inc., January 26, 2000. (Adobe Acrobat PDF file, 52 pages, 578 kilobytes).

[14] *Comments on Presiding Member's Proposed Decision* filed by Michael E. Boyd, Californians for Renewable Energy, Inc., January 26, 2000. (Adobe Acrobat PDF file, 52 pages, 578 kilobytes).

[15] November 18, 1999, *hearing testimony* by Californians for Renewable Energy, Inc., Michael E. Boyd, Sunnyvale, Calif.

[16] *Comments on Presiding Member's Proposed Decision* filed by Michael E. Boyd, Californians for Renewable Energy, Inc., January 26, 2000. (Adobe Acrobat PDF file, 52 pages, 578 kilobytes).

[17] *Written Testimony and Identification of Witnesses for a November 18, 1999 Hearing on the Delta Energy Center (98-AFC-3) Socioeconomic, air quality, and public health* http://www.calfree.com/Delta_Test.html

[18] *Comments on Presiding Member's Proposed Decision* filed by Michael E. Boyd, Californians for Renewable Energy, Inc.,

January 26, 2000. (Adobe Acrobat PDF file, 52 pages, 578 kilobytes).

[19] [Rebuttal to Senior Staff Counsel Dick Ratliff's Brief on the Delta Energy Center Project Alternatives](http://www.calfree.com/Rebuttal.html) 11/04/1999
<http://www.calfree.com/Rebuttal.html>

[20] [December 18 & \(amended\) 21, 1999, complaint filed under Bagley-Keene Act](#) ("Demand to Correct or Cure Violations of the Bagley-Keene Open Meeting Act") by (b) (6) Privacy Community Health First.

[21] [Rebuttal to Senior Staff Counsel Dick Ratliff's Brief on the Delta Energy Center Project Alternatives](http://www.calfree.com/Rebuttal.html) 11/04/1999
<http://www.calfree.com/Rebuttal.html>

[22] [Comments on Presiding Member's Proposed Decision](#) filed by Michael E. Boyd, Californians for Renewable Energy, Inc., January 26, 2000. (Adobe Acrobat PDF file, 52 pages, 578 kilobytes).

Addendum^[i]

PITTSBURG UNIFIED SCHOOL DISTRICT

2000 RAILROAD AVENUE – PITTSBURG – CALIFORNIA 94565

Superintendent's Office
Robert Newell, Superintendent
Yvonne Jaramillo, Secretary

PHONE: (925) 473-4231

FAX: (925) 473-4274

To: Mike Boyd
From: Bob Newell, Secretary
to the Board of Education
Date: April 17, 2000
Re: Complaint with the Office of Civil Rights on
Environmental Justice Issues

At its April 12, 2000 Board meeting, the Pittsburg Board of Trustees unanimously voted to file a complaint on Environmental Justice Issues.

The complaint as voted was on the web at <http://www.calfree.com/OCRDelta.html> on Friday, April 7, 2000.

In the background information to the Board, reference was made to Resolution 99-32 (copy attached) requesting the EPA declare Pittsburg an Environmental Justice Community.

Robert L. Newell
Superintendent/Secretary to the
Pittsburg Board of Education

Addendum^[ii]

Energy Commission Budget For Fiscal Year 1999-2000

\$107.3 million	Public Interest Renewable Resource Trust Funds
\$66.9 million	Public Interest RD&D Programs Trust Fund
\$33.4 million	Energy Resources Programs Account (ERPA) Funds
\$8.6 million	Federal Trust Funds
\$3.4 million	Reimbursement Funds
\$10.2 million	Miscellaneous Funds
\$229.8 million	TOTAL

The Commission's proposed 99/00 budget is \$229.8 million. Included in this amount are \$107.3 million in Public Interest Renewable funds, \$66.9 million Public Interest RD & D funds, \$33.4 million in ERPA funds, \$8.6 million in federal funds, \$3.4 million in reimbursement funds and \$10.2 million in miscellaneous funds.

Authorized positions are 504.6. Total support funding is \$47.3 million consisting of \$30.3 million for personal services, \$9.6 million for contracts and \$7.4 million for other operating. Special item or pass through funding is \$182.5 million.

The following summarizes Commission funding sources:

DERF Funds - proposed expenditure level is \$1,002K. These are support funds for three staff and \$700K for contracts. Language is included in the Budget Bill to allow for a two year encumbrance period to 6/30/01 and a liquidation period of 6/30/05.

ERPA Funds - proposed expenditure level is \$33,378K. ERPA is the primary funding source for CEC staff, contract and operating expenses and also funds Export grants.

ETRDDA Funds - proposed expenditure level is \$1,134K which includes \$874K for the Small Business Loan Program and \$260K for transportation research and development activities. Language is included in the Budget Bill to allow for a two year encumbrance period to 6/30/01 and a liquidation period to 6/30/03.

Federal Funds - proposed expenditure level is \$8,659K. This includes \$2,680K in staff support and contracts for the SEP program and \$5,979K for anticipated federal awards for various Commission programs.

GRDA Funds - proposed expenditure level is \$251K for 4.6 staff and \$3,200K for local assistance. Language is included in the Budget Bill to allow for a two year encumbrance period to 6/30/01 and a liquidation period to 6/30/03.

Katz Funds - proposed expenditure level is \$643K. These are support funds for 10 staff.

MVA Funds - proposed expenditure level is \$114K. These are support funds for approximately two staff.

Public Interest Research, Development and Demonstration Programs Trust Fund - proposed expenditure level is \$5,055K for approximately 24 staff, operating and baseline contracts and \$61,800K for pass through program funds. Language is included in the Budget Bill to allow for a two year encumbrance period to 6/30/01 and a liquidation period to 6/30/04, and flexibility in the types of funding agreements and selection criteria.

Public Interest Renewable Resource Trust Fund - proposed expenditure level is \$2,343K for approximately 10 staff, operating and baseline contracts. Additionally, another \$104,955K are continuously appropriated pass through program funds available outside the Budget Bill.

PVEA Funds - proposed expenditure level is \$1,403K for 22.5 staff.

1998-99 Fiscal Year Budget

Addendum^[iii]

Envirofacts Report on Grants Information Non-Construction Grants

BAY AREA AQMD (Grant #: 999922010)
939 ELLIS STREET
SAN FRANCISCO, CA 94109

Contents:

[Project Information](#)

[EPA Information](#)

[Amendments](#)

Project Information

CFDA Number: 66.606
CFDA Description: SURVEYS, STUDIES, INVESTIGATIONS, SPECI
Project Description: - CAA 103 - PM 2.5 MONITORING NETWORK
Project Start Date: MAR-19-1998
Project End Date: SEP-30-2000
Total Project Cost: \$1,259,782
Project Location (City, State, County): VARIOUS, CA, 9 BAY AREA COUN
Project Manager: PETER HESS
Project Phone:

EPA Information

EPA Program: INVESTIGATIONS, SURVEYS OR STUDIES CON- sidered neither research, demonstration nor training; and comprehensive estuar- ine mgmt pollution control & abatement
Statutory Authority: CLEAN AIR ACT: SEC. 103
EPA Project Officer Name: VALERIE COOPER
EPA Project Officer Phone: 4157441237
EPA Cumulative Award: \$561,380

Amendments

<u>Amendment#</u>	<u>Award Date</u>	<u>Funds Awarded</u>
999922011	MAR-04-1999	\$316,030
999922012	DEC-02-1999	\$55,586

This report was run on APR-15-2000.

Addendum [iv]

Envirofacts Report on Grants Information

Non-Construction Grants

BAY AREA AQMD (Grant #: 009056000)
939 ELLIS STREET
SAN FRANCISCO, CA 94109

Contents:

[Project Information](#)

[EPA Information](#)

[Amendments](#)

Project Information

[CFDA Number:](#) 66.001
[CFDA Description:](#) AIR POLLUTION CONTROL PROGRAM SUPPORT
[Project Description:](#) - FY-2000 AIR POLLUTION CONTROL PROGRAM
[Project Start Date:](#) OCT-01-1999
[Project End Date:](#) SEP-30-2000
[Total Project Cost:](#) \$53,453,612
[Project Location \(City, State, County\):](#) , CA, ALAMEDA CONTRA
[Project Manager:](#) PETER HESS
[Project Phone:](#)

EPA Information

[EPA Program:](#) AIR POLLUTION CONTROL PROGRAM SUPPORT
[Statutory Authority:](#) CLEAN WATER ACT: SEC. 105
[EPA Project Officer Name:](#) VALERIE COOPER
[EPA Project Officer Phone:](#) 4157441237
[EPA Cumulative Award:](#)

Amendments

Amendment#	Award Date	Funds Awarded
009056001	FEB-09-2000	

This report was run on APR-15-2000.

Addendum^[v]

Envirofacts Report on Grants Information
Non-Construction Grants

CALIFORNIA AIR RESOURCES BOARD (Grant #: 826744010)
2020 L STREET
SACRAMENTO, CA 95812

Contents:

[Project Information](#)

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Project Information

[CFDA Number:](#) 66.606

[CFDA Description:](#) SURVEYS, STUDIES, INVESTIGATIONS, SPECI

[Project Description:](#) PROVIDE TRAINING AND ASSISTANCE TO THE CHINESE FOR THE DESIGN AND DEVELOPMENT OF AN AIR POLLUTION MONITORING NETWORK - To provide training and assistance to the Chinese in designing their sampling network in approximately 11 cities.

[Project Start Date:](#) JUN-30-1998

[Project End Date:](#) DEC-31-1999

[Total Project Cost:](#) \$125,000

[Project Location \(City, State, County\):](#) SACRAMENTO, CA, SACRAMENTO

[Project Manager:](#) OSLUND, BILL

[Project Phone:](#) 9164453745

EPA Information

[EPA Program:](#) INVESTIGATIONS, SURVEYS OR STUDIES CON- sidered neither research, demonstration nor training; and comprehensive estuar- ine mgmt pollution control & abatement

[Statutory Authority:](#) CLEAN AIR ACT: SEC. 103

[EPA Project](#)

Officer BAILEY, MARIANNE (2650R)
Name:

EPA
Project 2025646402
Officer
Phone:

EPA
Cumulative \$125,000
Award:

Amendments

<u>Amendment#</u>	<u>Award Date</u>	<u>Funds Awarded</u>
826744011	AUG-17-1999	

This report was run on APR-15-2000.

Addendum [vi]

Envirofacts Report on Grants Information Non-Construction Grants

CALIFORNIA AIR RESOURCES BOARD (Grant #: 827408010)
2020 L STREET
SACRAMENTO, CA 95812

Contents:

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Project Information

CFDA 66.607
Number:

CFDA
Description: TRAINING AND FELLOWSHIP GRANTS

Project SMALL GRANT - DEVELOPMENT OF A THREE DAY STANDARDIZED TRAINING
Description: PROGRAM FOR STATE & LOCAL GOVERNMENTS ON THE NEW SERVICE REVIEW & PREVENTION OF SIGNIFICANT DETERIORATION (PSD)- CARB WITH INPUT FROM LOCAL AIR POLLUTION CONTROL DISTRICT STAFF AND EPA, PROPOSE TO MODIFY THE EXSISTING EPA NSR/PSD TRAINING COURSE TO ADDRESS THE NEEDS OF THE STATE AND LOCAL ENFORCEMENT PERSONNEL.

Project MAY-01-1999
Start Date:
Project End
Date: APR-30-2000
Total
Project \$50,000
Cost:
Project
Location
(City, State, SACRAMENTO, CA, SACRAMENTO
County):
Project
Manager: DEBBS, VALINDA
Project
Phone: 9163226037

EPA Information

EPA Program: TRAINING
Statutory Authority: CLEAN AIR ACT: SEC. 103
EPA Project Officer Name: HAAS, CRAIG (2242A)
EPA Project Officer Phone: 2025640053
EPA Cumulative Award: \$50,000

Amendments

No amendments were found in the database for this Recipient

This report was run on APR-15-2000.

Addendum^[vii] General Description of the Pittsburg District Energy Facility Project (98-AFC-1)

On June 15, 1998, the Pittsburg District Energy Facility, Limited Liability Company (LLC), filed an Application for Certification (AFC) with the California Energy to construct and operate the Pittsburg District Energy Facility (PDEF). The PDEF will be providing process steam to USS-Posco Industries. Electrical energy produced from the proposed power plant will be sold to California's regional power pool and other electricity consumers. The PDEF electric generating plant and related facilities, such as the electric transmission line, natural gas pipeline and water lines are under the Energy Commission's jurisdiction. The power plant certification process examines engineering and environmental aspects of power plant proposals, and contains requirements similar to those contained in the California Environmental Quality Act (CEQA).

The PDEF is to be located on a 12-acre site on East 3rd Street, west of the intersection of East 3rd and Columbia in the City of Pittsburg, in eastern Contra Costa County. The site is on the northwest corner of property owned by USS-Posco Industries.

The applicant proposed a combined cycle combustion turbine generator (CTG) design with a nominal

capacity of 500 megawatts (MW). The design consists of two trains of "F" class CTG machines with either one or two steam turbine generators. Natural gas is burned in the combustion turbine generators, which converts the thermal energy into mechanical energy required to drive the compressor and electric generator. The combustion turbine trains include exhaust stacks and step-up transformers, heat recovery steam generator (HRSG) units, steam turbine generator units and their transformers, and water treatment and cooling towers. A 115 kilovolt (kV) high voltage switchyard will be located on the west side of the project site. Reclaimed water for turbine cooling will be supplied from the Delta Diablo Wastewater Treatment Facility located in the City of Antioch. Estimated cost of the project is between \$200 & \$300 million.

In support of the City of Pittsburg's effort to reroute existing marine terminal truck traffic as well as provide improved access to the project site, the PDEF project has sponsored and will construct a new Truck Bypass Road which will be approximately 0.75 mile long. It will connect East 14th Street, near the existing intersection of Columbia Street and East 14th, to Harbor Street, near the existing intersection of East Santa Fe Avenue and Harbor.

Nitrogen oxide (NOx) emissions from the combustion process will be reduced to 2.5 parts-per-million by volume dry (ppmvd), or less, at 15 percent oxygen by utilizing dry low NOx combustion technology and a selective catalytic reduction (SCR) system. The SCR system will use aqueous ammonia for the reduction process.

Linear electric facilities associated with the project include: a new 2.5 mile double circuit 115 kV overhead/underground electric transmission line to connect the project to Pacific Gas & Electric's (PG&E) existing Pittsburg Power Plant Switchyard; and a new 1.2 mile single circuit 115 kV line to connect the PDEF with the USS-Posco Industries plant. Sections of these new lines will parallel existing 115 kV lines.

Pipeline facilities associated with the project include: a potable water supply line approximately 500 feet long; a gas pipeline approximately 3.6 miles long; a sewer line approximately 500 feet long; and a reclaimed water line approximately 2 miles long. The entire pipeline facilities will be buried underground. The engineering and environmental details of the proposed project are contained in the AFC.

On June 12, 1998, the Pittsburg District Energy Facility, LLC, filed an application for certification for a 500-megawatt natural gas-fired cogeneration project to be located in the City of Pittsburg. The application was approved on August 17, 1999, and construction on the project began on September 20, 1999. On September 28, 1999, ownership of the Pittsburg Energy Facility, LLC was transferred to the Calpine Corporation.

On November 24, 1999, the California Energy Commission (Energy Commission) received a petition from the Calpine Corporation. The petition, submitted under section 1769 (a) of the California Energy Regulations, requested approval to modify the description and design of the Pittsburg District Energy Facility. Specifically, the Calpine Corporation sought approval to implement the following changes:

Modify the process make-up water supply to allow for the use of potable water from the City of Pittsburg for process make-up water. Reclaimed water from the Delta Diablo Sanitation District and raw water from the Contra Costa Water District will be primary and secondary back-up sources, respectively.

1. Add a second circuit to the 115 kV transmission line dedicated to USS-POSCO.
2. Modify the fuel gas pipeline route to tie into the Delta Energy Center's gas line at the Delta project site, and include Delta's gas line to PG&E's Line 400.
3. Provide back-up steam to DOW Chemical.
4. Change the name of the project from Pittsburg District Energy Facility to Los Medanos Energy Center

Modifications requested by Calpine/Bechtel were approved by the CEC at its business meeting of March 22, 2000 without a formal amendment of the PDEF AFC and further environmental review.

Addendum [viii] **General Description of the Delta Energy Center Project (98-AFC-3)**

On December 18, 1998, the joint partnership of [Calpine Corporation](#) and San Francisco-based [Bechtel Enterprises Inc.](#), an affiliate of Bechtel Group Inc., file an Application for Certification (AFC) seeking approval from the Energy Commission to construct and operate the Delta Energy Center. The project is an 880-megawatt (MW), natural gas-fired, combined cycle electric generation facility. The Delta Energy Center is proposed to be located on an undeveloped 20-acre parcel at the Dow Chemical Company facility located generally north and west of the Delta Diablo Sanitation District treatment facility.

A new 3.3-mile, 230 kilovolt (kV) electric transmission line is proposed. This line will interconnect to the electric transmission system at the existing Pacific Gas and Electric Company substation near the Pittsburg Power Plant. The line will be above ground as it runs in front of the USS POSCO, then will transition to underground along 8th Street. A 0.8-mile underground 13.8 kV line will be built to supply electricity to Dow Chemical. A new, 5.3-mile natural gas pipeline will be placed in the existing Dow Chemical right-of-way along the Santa Fe Railroad and will connect to PG&E's Antioch natural gas terminal. Water for the cooling towers will be secondary-treated wastewater from the Delta Diablo Sanitation District, which will receive additional treatment on the project site to comply with the requirements of the Department of Health Services. A short water supply line will be constructed from Delta Diablo to the project. Water for steam production and domestic uses will be supplied by the Contra Costa Water District and transported in Dow's existing 20-inch pipeline. All plant discharges will be sent back to the Delta Diablo Sanitation District for disposal in its existing discharge pipe. Approximately 200,000lb/hr of saturated steam will be supplied to Dow Chemical in a 0.7-mile above ground insulated carbon steel pipeline. Condensate will be returned in an un-insulated pipe carried on the same structures.

Addendum [ix] **Disparate Impacts Mandates More Thorough Alternatives Analysis**

Under Project Alternatives starting at page 19 of the PMPD the Commission's description of intervenors positions requires several corrections as follows starting at page 27:

"CRE presented legal argument asserting that Staff's alternatives analysis violates CEQA because Staff focused too narrowly on Applicant's declared objectives and thereby eliminated other feasible alternatives that would more effectively prevent adverse environmental impacts. (CRE 11/2 Rebuttal Brief, p.2.) At the evidentiary hearing, CRE's representative, Michael Boyd, questioned the definition of feasibility used by Staff, claiming that Staff's apparent emphasis on economic feasibility was inappropriate. (10/5 RT 101-102, 114-116.) CRE contends that the Commission erred in exempting Applicant from the Notice of Intention (NOI) process, 15 that CRE believes is equivalent to the CEQA scoping process. (CRE Rebuttal Brief.) By eliminating the NOI process, CRE asserts that the public was denied the opportunity to meaningfully participate in the project's environmental review. (*Ibid.*) CRE asserts that the Commission's siting process is not certified by the Secretary of the Resources Agency as required by Section 21080.5 of the Public Resources Code. CRE relies on the ~~arguments presented in the Petitioner (complainant) (complainant)'s Brief in the matter of *Brad Foster v. Energy Resources Conservation Development Commission*, Case No. S-081009, that has been summarily denied by the California Supreme Court~~ passage into California law of amendments to the Warren-Alquist Act SB110 which mandates review of the Commission's environmental program by the California Resources Agency. CRE also claims that Staff failed to consider environmental justice issues in the alternatives analysis because, CRE believes, harmful air emissions in the Pittsburg area unfairly impact low income and minority communities. (CRE Rebuttal Brief, p.9.) CRE argues that the mitigation measures recommended by Staff and BAAQMD do not comply with EPA requirements. (*Ibid.*)

COMMISSION DISCUSSION

Section 25540.6(b) of the Public Resources Code does not require an alternative site analysis for a cogeneration project at an existing industrial site. In this case, although the project does not meet the efficiency standards of Section 25134 to achieve cogeneration status under the Warren-Alquist Act, the evidence clearly establishes that DEC is conceived as a cogeneration plant since it will supply process steam and electricity to Dow. The Commission, therefore, finds a strong relationship between DEC and the existing industrial site as the result of the solicitation by Dow Chemical for this project. Accordingly, we believe that section 25540.6(b) is applicable to this case. Intervenor CRE formally objects to the failure of the CEC to identify renewable energy supplies, or propose, or consider any renewable energy project, the “environmentally preferred alternative” in the, “Delta Energy Center (98-AFC-3) Final Staff Assessment”. Intervenor requested the CEC prepare and Environmental Impact Report on the proposed project in compliance with CEQA as the “environmentally preferred alternative” to this project is renewable energy, which will provide near zero emission sustainable power generation in an area of regional non-attainment for ozone and PM10. The CEC’s certified environmental program is under review by the California Resources Agency pursuant to SB110. Intervenor CRE believes that this analysis of alternatives fails to identify the “environmentally preferred alternative” as such, and therefore fails to comply with CEQA’s requirements for alternatives and mitigation. As evidence of the legal basis for intervenor’s position intervenor cites the CEQA Case “Citizens for Goleta Valley v. Board of Supervisors of Santa Barbara County,” in which the Court of Appeals, “Held that: *(2) failure of environmental impact report to consider alternative was improper.*”

We have, nevertheless, reviewed the evidence on alternative sites and technologies to ensure that all potential concerns were considered. This examination is necessarily limited to those sites within approximately one-half mile of the DEC site because of the operating characteristics of the steam line. We view this technical limitation as critical in assessing alternative site feasibility. Intervenor CRE states that the “Delta Energy Center (98-AFC-3) Final Staff Assessment” failed to meet the requirements of CEQA to clearly identify the “Proposed Pittsburg District Energy Facility site” as an “environmentally preferred alternative” to the proposed DEC. CRE identifies that the Commission is aware of the Applicants proposed amendment to the PDEF AFC is pending and will if approved meet the objective requirements of the Commission and the Applicant as sited for this project.

The Commission is not persuaded by Intervenor CRE’s argument that Staff focused on Applicant’s economic interests rather than on environmental impacts in reviewing the feasibility of alternative technologies or alternative sites. ~~Not only was no evidence presented to support this assertion, but the CEQA Guidelines instruct the lead agency to use the rule of reason in examining alternatives that achieve the project’s basic objectives. [Cal. Code of Regs, tit.14,15126.6(f).] We find that Staff complied with CEQA requirements and performed a balanced analysis that considered all relevant factors.~~ Intervenor CRE believes that this analysis of alternative siting “environmentally preferred alternative sites” fails to identify alternative sites as such, and therefore fails to comply with CEQA’s requirements for alternative siting and mitigation. As evidence of the legal basis for Intervenor CRE’s position intervenor CRE cites the CEQA Case “Citizens for Goleta Valley v. Board of Supervisors of Santa Barbara County” in which the Court of Appeals, “Held that: *(3) alternative of development on a different site was not adequately considered.*” As such, the intervenor’s position is that this projects environmental document therefore fails to meet the requirements for CEQA. Intervenor CRE’s position is that this section fails to provide a technically accurate analysis of the beneficial effects on air emission of the reduced project in comparison with

the proposed project. Intervenor CRE would like to note that the statement, “this smaller project would be less likely to meet project objectives and offers no environmental benefits when compared to the proposed project”, is technically incorrect in regards to environmental benefits. Further the compliance with the requirements for the applicant’s “economic” objectives should not be cited unless this alternative can be shown to be economically unfeasible. As evidence of the legal basis for Intervenor CRE’s position intervenor once again cites the CEQA Case “Citizens for Goleta Valley v. Board of Supervisors of Santa Barbara County” in which the Court of Appeals, “Held that: *(1) alternative of a smaller project was not shown to be economically unfeasible.*”

The evidentiary record indicates that the proposed alternative technologies do not meet project objectives and the proposed alternative sites are less advantageous than the project site. Since the project, as mitigated, will not create any significant impacts, none of the alternative sites in Pittsburg or Antioch could potentially reduce environmental impacts that do not exist. The option of a smaller project, such as a 240 MW cogeneration facility at the proposed site, was considered because it could potentially result in reduced air emissions, although it would include similar onsite project components, and similar linear facility routes. While Staff suggested the smaller facility would be more environmentally preferable, all of the potential adverse impacts associated with the proposed project will be mitigated to levels of insignificance just as they would be for a smaller project. Thus, there is no advantage to a smaller-sized project option. CRE’s position is that the “Delta Energy Center (98-AFC-3) Final Staff Assessment” failed to meet the requirements of CEQA to clearly identify the “Proposed Pittsburg District Energy Facility site” as an “environmentally preferred alternative” and the reduced project alternative to the proposed DEC. CRE identifies that the Commission is aware of the Applicants proposed amendment to the PDEF AFC is pending and will if approved meet the objective requirements of the Commission and the Applicant as sited for this project. CRE disagrees with staff position that the potential adverse impacts associated with the proposed project will be mitigated to levels of insignificance as cited in intervenor’s comments on air quality, public health, socioeconomic impacts and as presented in CEC exhibit 62.

While the no project alternative may temporarily avoid the project’s potential impacts, the benefits of the project, which replaces older, inefficient generating facilities, would not be realized. Moreover, the industrially-zoned site is likely to be developed in any event, which would necessarily require a CEQA-based environmental impacts analysis and mitigation measures appropriate to the development of an industrial facility and similar to those required of DEC. CRE contends that the Commission should prepare a formal EIR pursuant to CEQA as its environmental program is pending review by the California Resources Agency. The no project alternative would therefore facilitate the cure sought by intervenor in that a CEQA compliant environmental document is prepared for industrial development at the proposed site that is consistent with local ordinances, state and federal laws.

~~While~~ ~~w~~ We are sympathetic to the Intervenor’s view that renewable technologies are potentially less harmful to the environment than gas-fired technology. ~~the~~ The Commission is mandated to ensure the development of efficient generation sources that ~~can~~ meet the requirements of California’s energy market and balanced this with the need to maintain air quality within federal and state air attainment guidelines for PM10 and Ozone. ~~.(See, discussion at 11/18 RT 388-393.)~~ The Commission will continue to foster and encourage the development of renewable energy technologies but at the same time, while the applicant’s evidence demonstrates that large modern, state-of-the-art gas-fired power plants are the most efficient and reliable technologies that can provide power at the scale required in

California at the present time, it fails to meet the requirements for technology that limits emissions levels to those that mitigate existing conditions for non-attainment for Ozone and PM10. (See, sections on **Power Plant Efficiency** and **Power Plant Reliability**.)

Regarding potential cumulative environmental impacts, the record establishes that mitigation measures contained in the Conditions of Certification have ~~failed to factor~~^{ed} in the potential cumulative impacts for each topic area in this Decision. The sections on **Socioeconomic**, **Air Quality**, and **Public Health** provide discussions of Intervenor concerns regarding Environmental Justice, Air Quality, and Public Health. Moreover, the regulatory regimen designed by the U.S.EPA and the California Air Resources Board (CARB) is intended, through offsets, to allow industrial development while protecting air quality. ~~As explained in the Air Quality and Public Health sections, the project meets the applicable regulatory criteria.~~

Intervenor CRE cited ~~the Sutter appeal that was pending before the California Supreme Court passage into California law of amendments to the Warren-Alquist Act SB110 which mandates review of the Commission's environmental program by the California Resources Agency in arguing that the Commission's regulatory program to license power plants is not certified by the Secretary of the Resources Agency. CRE raises the same issues that the Commission addressed and rejected in the Order Denying Petition for Reconsideration in the Application for Certification for the Sutter Power Plant Project [Order No.99-0623-20; June 23,1999 (Docket No.97-AFC-2).] We will not reconsider those arguments here.~~

The Commission concludes, therefore, that none of the technological or site alternatives reviewed by Applicant and Staff, nor proposed by the Intervenor, would avoid or substantially lessen significant project-related impacts since all potential adverse impacts will be mitigated to insignificant levels. Moreover, none of the proposed alternatives would more feasibly achieve project objectives than the project description and the project site as proposed by the Applicant. No Conditions of Certification are required for this topic. CRE disagrees with the Commission's conclusion, and cites for the record as evidence of the validity of intervenor's positions CEC exhibit 62 C "Brief on the Delta Energy Center (98-AFC-3) Final Staff Assessment -- Inadequacy of Alternatives Analysis Pursuant to CEQA" ^[ix], and cites the transcript from the Hearing before the Energy Commission on October 5, 1999. Intervenor CRE believes that the presence of adversely impacted minority populations within the impact zone as identified in the non zero PM10 impact area of figure C-12 of exhibit 55 mandates a more thorough alternatives analysis as mandated by Environmental Justice guidelines.

Addendum ^[x] "1. What are the health effects of particulate air pollution?"

More than two-dozen community health studies since 1987 have linked particulate pollution to reductions in lung function, increased hospital and emergency room admissions, and premature deaths. Recently, two major epidemiological studies (by the American Cancer Society and Harvard University) were published that showed that people living in more polluted cities had an increased risk of premature death compared to those in cleaner cities.

2. How does mortality attributable to particulate pollution compare to total cardiopulmonary mortality?

NRDC estimates that at current levels of pollution, approximately 64,000 premature deaths from cardiopulmonary causes may be attributable to particulate air pollution each year. That represents 6.5% of all cardiopulmonary deaths, which total 986,000 per year. The national estimate of mortality attributable to smoking is 418,690 for 1990.

3. Who is at greatest risk?

The elderly and those with heart and lung disease are at greatest risk of premature mortality due to particulate air pollution. One to two years on average in more polluted areas might shorten their lives.

4. How do particles cause harm to human health?

The exact toxicological mechanisms are not well understood, but researchers have a number of theories. For instance, studies show that particulate matter causes respiratory symptoms, changes in lung function, alteration of mucociliary clearance, and pulmonary inflammation, which can lead to increased permeability of the lungs. Increased permeability might precipitate fluid in the lungs in people with heart disease. In addition, mediators released during an inflammatory response could increase the risk of blood clot formation and strokes.

Particulate exposure might also increase susceptibility to bacterial or viral respiratory infections, leading to an increased incidence of pneumonia in vulnerable members of the population. Potential mechanisms could include impairment of clearance mechanisms or immune system function. In the presence of pre-existing heart disease, acute bronchiolitis or pneumonia induced by air pollutants might precipitate congestive heart failure.

Particulate air pollution might also aggravate the severity of underlying chronic lung disease, causing more frequent or severe exacerbation of airways disease or more rapid loss of lung function.

5. Has a cause-and-effect relationship been demonstrated?

Evaluation of epidemiological studies requires consideration of a number of factors such as strength of the association, consistency of the association, dose-response relationship, biological plausibility, and coherence with other known facts. Based on these factors, a number of prestigious international panels including a British Committee on the Medical Effects of Air Pollutants and a Committee of the Health Council of Netherlands have concluded that there is a cause-and-effect relationship between particulate pollution and mortality.

6. What exactly is particulate matter?

Particulate matter includes a wide range of pollutants -- road dust, diesel soot, fly ash, wood smoke, and sulfate aerosols that are suspended as particles in the air. These particles are a mixture of visible and microscopic solid particles and minute liquid droplets known as aerosols.

7. Where do fine particles come from?

Combustion of fossil fuels is the principal source of fine particle emissions, including the burning of coal, oil, diesel fuel, gasoline, and wood in transportation, power generation, and space heating. Old coal-fired power plants, industrial boilers, diesel and gas-powered vehicles, and wood stoves are the

worst culprits. High temperature industrial processes such as metal smelting and steel production are also significant sources.

8. What level of exposure to particulates is considered unhealthy? Is there a threshold?

Epidemiological studies have reported a linear relationship between exposure and effects. In other words, the higher the concentration of particles, the greater the effect on the health of populations. Effects have been demonstrated at levels well below the current National Ambient Air Quality Standards. Scientists have not been able to identify a threshold below which health effects do not occur. While not a threshold, the long-term epidemiology studies show that the risk of premature deaths starts to increase at annual average concentrations of PM_{2.5} of 10 g/m³, according to the World Health Organization.

9. How did NRDC come up with its mortality estimates?

NRDC used a methodology suggested by prominent research scientist Dr. Joel Schwartz of the Harvard School of Public Health. We applied the findings of a 1995 study by the American Cancer Society (ACS) and Harvard Medical School to local data to gauge the extent of the particulate pollution problem. The ACS study is the largest, most comprehensive long-term epidemiologic study examining the effect of ambient air pollution on human health. The study used statistical techniques to adjust for age, and to control for the effects of smoking, body weight, occupational exposure, and other risk factors.

There were four steps to NRDC's analysis: 1) Analysis of EPA particulate monitoring information for metropolitan statistical areas; 2) Tabulation of data from the National Center for Health Statistics on adult mortality rates from selected cardiopulmonary causes; 3) Calculation of a risk coefficient per microgram of particle pollution from data presented in the ACS study; and 4) Application of the risk coefficient to city-specific monitoring and mortality data.

Although NRDC's analysis relies on several assumptions, a sensitivity analysis based on alternative assumptions shows that the estimates are reasonable.

California-Particulate Air Pollution Attributable Mortality by MSA

This table identifies Metropolitan Statistical Areas in the state of California. For each MSA, the table shows PM-10 concentration and NRDC's estimate of air pollution attributable deaths.

The table shows the average annual mean PM-10 concentration in each MSA over the five-year period, 1990 through 1994. The higher the PM-10 concentration, the greater the risk of premature mortality from heart and lung disease

For each MSA, we present point and range estimates of the annual adult cardiopulmonary deaths attributable to air pollution. The estimates are derived by applying a risk factor reported in a study of an American Cancer Society cohort to MSA-specific information on PM-10 concentrations and mortality from selected causes. The range estimates are derived from the confidence intervals for the risk ratio reported in the ACS study.

For the purposes of comparison, the table also shows the total number of cardiopulmonary deaths in

the MSA and the number of deaths from car accidents.

Metropolitan Statistical Area	Average Annual Mean PM-10 Concentration (1990-1994) (ug/m ³)	Estimated Annual Cardiopulmonary		Deaths Attributable to Particulate Air Pollution		Deaths per 100,000 Population	Adult Cardio- Pulmonary Deaths (1989)	Deaths from Auto Accidents (1989)
		Point Estimate	Range	-	Range			
ANAHEIM-SANTA ANA, CA	38.1	1,053	632	-	1,433	55	7,429	369
BAKERSFIELD, CA	54.8	464	284	-	618	115	2,005	163
CHICO, CA	33.1	104	62	-	143	72	924	59
FRESNO, CA	51.7	488	298	-	653	95	2,265	212
LOS ANGELES-LONG BEACH, CA	43.8	5,873	3,550	-	7,933	79	33,825	1,458
OXNARD-SIMI VALLEY-VENTURA, CA	30.6	182	108	-	251	34	1,864	110
REDDING, CA	28.3	58	34	-	80	50	683	60
RIVERSIDE-SAN BERNARDINO, CA	48.1	1,905	1,158	-	2,560	122	9,685	748
SACRAMENTO, CA	31.9	488	290	-	669	48	4,625	260
SALINAS-SEASIDE-MONTEREY, CA	19.4	29	17	-	40	10	1,019	62
SAN DIEGO, CA	34.8	999	597	-	1,365	54	8,147	412
SAN FRANCISCO-OAKLAND, CA	28.7	1,270	752	-	1,748	39	14,694	414
SAN JOSE, CA	32.8	447	266	-	612	35	4,015	179
SANTA BARBARA-SANTA MARIA-LOMPOC, CA	30.5	124	74	-	171	41	1,278	53
SANTA CRUZ, CA	13.2	0	0	-	0	0	881	37
SANTA ROSA, CA	20.0	52	31	-	73	17	1,600	86
STOCKTON, CA	44.8	321	194	-	433	93	1,794	125
VALLEJO-FAIRFIELD-NAPA, CA	28.2	120	71	-	165	36	1,437	67
VISALIA-TULARE-PORTERVILLE, CA	60.4	302	186	-	402	123	1,277	167
YUBA CITY, CA	37.4	65	39	-	89	64	472	37

Table California: Particulate Air Pollution Attributable Mortality

Point estimates are derived from the risk ratio reported in the ACS study. Ranges are derived from 95-percent confidence intervals around the risk ratio in the ACS study.

Metropolitan Statistical Areas are as defined by the Office of Management and Budget for 1980, except for New England, where areas are New England County Metropolitan Areas."